



PHD

The Antecedents and Consequences of Student Perceptions of University Image and Student-University Identification in Transnational Higher Education

Wilkins, Stephen

Award date:
2013

Awarding institution:
University of Bath

[Link to publication](#)

Alternative formats

If you require this document in an alternative format, please contact:
openaccess@bath.ac.uk

Copyright of this thesis rests with the author. Access is subject to the above licence, if given. If no licence is specified above, original content in this thesis is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC-ND 4.0) Licence (<https://creativecommons.org/licenses/by-nc-nd/4.0/>). Any third-party copyright material present remains the property of its respective owner(s) and is licensed under its existing terms.

Take down policy

If you consider content within Bath's Research Portal to be in breach of UK law, please contact: openaccess@bath.ac.uk with the details. Your claim will be investigated and, where appropriate, the item will be removed from public view as soon as possible.

**The antecedents and consequences of student perceptions
of university image and student-university identification
in transnational higher education**

Stephen Joseph Karl Wilkins

A thesis submitted for the degree of Doctor of Philosophy

University of Bath
School of Management
February 2013

COPYRIGHT

Attention is drawn to the fact that copyright of this thesis rests with the author. A copy of this thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with the author and that they must not copy it or use material from it except as permitted by law or with the consent of the author.

This thesis may be made available for consultation within the University Library and may be photocopied or lent to other libraries for the purposes of consultation.

Contents

Abstract	10
1. Introduction	
1.1 Contextual background: the international branch campus	11
1.2 Purpose of research	12
1.2.1 Research problem and research questions	14
1.3 Research strategy	16
1.4 Structure of report	16
2. The context: transnational higher education, international branch campuses and student choice	
2.1 Globalisation and internationalisation of higher education	19
2.2 International students and the growth of transnational higher education (TNHE)	23
2.3 Previous research on the internationalisation of higher education and transnational higher education	26
2.4 The realities of transnational higher education in a competitive higher education hub	28
2.5 Student choice in the literature	33
2.5.1 Conceptual models of student choice	35
2.5.2 Empirical research on international student choice	37
2.6 Expatriate children: global nomads/third culture kids	44
2.6.1 Expatriate children as international students in the UAE	44
2.6.2 The impacts of expatriate children's lifestyles and experiences on their higher education choices	47
3. Marketing, marketing communication and branding in higher education	
3.1 Introduction	52
3.2 The practice of higher education marketing	52
3.3 Higher education marketing in the literature	54
3.4 Marketing communication	56
3.4.1 Corporate communications	57
3.5 Branding in the literature	58
3.5.1 From product branding to service and corporate branding	58
3.5.2 Brand equity	60
3.6 Branding and brand management in higher education	62
4. Theoretical approach	
4.1 Corporate identity and image: muddled use of technology	66
4.2 Development of the corporate identity and image concepts in the literature	69
4.2.1 Identity – stable or fluid?	69
4.2.2 Balmer's AC ² ID Test	69
4.2.3 Image and reputation	70
4.3 Linking identity and image	70
4.4 Social identity theory	71
4.5 Customer-organisation identification	72
5. Conceptual framework and hypotheses	
5.1 Overview of conceptual framework	75
5.2 Formation of university images by potential students	76

5.3	Evaluation of university image attractiveness by potential students	80
5.4	Student-university identification	82
5.5	Consequences of image and student-university identification	85
6.	Methodology	
6.1	Research approach	87
6.2	Research philosophy	88
6.3	Research strategy	91
6.4	Research design	93
6.5	Criteria used for evaluating the credibility of research findings	94
6.5.1	Reliability	94
6.5.2	Validity	96
6.6	Sampling	96
6.7	Data collection	98
6.7.1	Pilot questionnaire design	98
6.7.2	Pilot study	99
6.7.3	Full study survey	102
6.7.3.1	Rationale for survey approach	102
6.7.3.2	Final questionnaire design	104
6.7.3.3	Administration of the questionnaire	106
6.8	Data analysis	106
6.9	Ethical considerations	107
7.	Results	
7.1	Pilot study	109
7.2	Full survey sample	117
7.3	Data handling and management	119
7.3.1	Exploratory factor analysis using SPSS	121
7.4	Sources of influence on university image formation among prospective higher education students	122
7.4.1	Sources of influence on university image formation	122
7.4.2	The ability of prospective students to form distinct images of university branch campuses	125
7.5	Student evaluation of university image attractiveness	128
7.5.1	Criteria used by prospective higher education students in the UAE to evaluate the images they hold of international branch campuses	128
7.5.2	The effects of institutional prestige and relevant others' opinions on students' perceptions of university image attractiveness	130
7.5.3	Perceived image attractiveness and attachment/membership intentions	131
7.6	Student-university identification	133
7.6.1	The components of student-university identification	133
7.6.2	Student-university identification and attachment/membership intentions	134
8.	Structural model	
8.1	Introduction to structural equation modelling	137
8.2	The advantages of structural equation modelling in this research	140
8.3	Choice of software for SEM analysis: AMOS (Analysis of Moment Structures)	142
8.4	Symbol notation and path diagrams	143
8.5	Conceptual model and hypotheses	144
8.6	Measures and measurement scales	145
8.7	Preliminary analyses: assessment of construct efficacy	148
8.7.1	Model identification	148

8.7.2	Model fit	149
8.7.3	Convergent validity	152
8.7.4	Reliability	153
8.7.5	Discriminant validity	153
8.8	Modification indices and specification searches	154
8.9	Student evaluation of image attractiveness	154
8.10	Student-university identification	163
8.11	Students' supportive intentions	167
8.12	Measurement model: assessment of model fit	172
8.13	Structural model: testing the hypotheses	177
8.14	Testing for moderating effects	185
8.15	Testing reliability of structural model	189
9.	Conclusion	
9.1	Summary of findings	191
9.2	Reflection on research methodology	197
9.3	Contributions of study	202
9.4	Implications and recommendations for institutions	203
9.5	Further research opportunities	207
	References	209
	Appendices	234

Figures

1. Scope of study	16
2. Viewpoints of an organisation for identity and image construction	66
3. Corporate identity and its sub-constructs	68
4. Conceptual framework	77
5. Extract of the final survey instrument	105
6. A simple structural equation model	143
7. Labels used on seven-point scales of survey instrument	148
8. Hypothesised three-factor structure of the 'Student evaluation of image attractiveness' construct	155
9. Summary notes for tested model: Student evaluation of image attractiveness	156
10. Model fit: Student evaluation of image attractiveness	157
11. Modification indices and parameter change statistics: Student evaluation of image attractiveness	158
12. Respecified model for 'Student evaluation of image attractiveness', showing standardised estimates	159
13. Model fit for respecified model: Student evaluation of image attractiveness	160
14. Estimates for respecified model: Student evaluation of image attractiveness	161
15. Model fit statistics for perfectly correlated model: Student evaluation of image attractiveness	162
16. Final model for 'Student-university identification', showing standardised estimates	163
17. Summary notes for final model: Student-university identification	164
18. Model fit for final model: Student-university identification	165
19. Estimates for final model: Student-university identification	166
20. Final model for 'Student's supportive intentions', showing standardised estimates	168
21. Summary notes for final model: Student's supportive intentions	169
22. Model fit for final model: Student's supportive intentions	169
23. Estimates for final model: Student's supportive intentions	171
24. Variables of the full measurement model, showing standardised estimates	172
25. Summary notes for the full measurement model	173
26. Model fit for full measurement model	174
27. Estimates for full measurement model	176
28. Structural model with 'Student's evaluation of university image attractiveness' and 'Student's supportive intentions' as the only latent variables	178
29. Model fit for structural model with 'Student's evaluation of university image attractiveness' and 'Student's supportive intentions' as the only latent variables	179
30. Estimates for structural model with 'Student's evaluation of university image attractiveness' and 'Student's supportive intentions' as the only latent variables	180
31. Structural model with three latent constructs showing all hypothesised relationships	180
32. Model fit for structural model with three latent constructs showing all hypothesised relationships	181
33. Estimates for structural model with three latent constructs showing all hypothesised relationships	182
34. Final structural model, showing standardised estimates	182
35. Final structural model showing indicators and correlational relationships	183
36. Model fit for final structural model	184
37. Estimates for final structural model	185
38. Tau-equivalent model for males when testing for gender as moderator	187

Tables

1. Summary of empirical research on international student decision-making	45
2. Factor loadings for sources of influence on the images of international branch campuses formed by potential students	123
3. Correlation results and hypotheses validation: Sources of influence on university image construction by prospective students	127
4. Factor loadings for criteria used by prospective students to evaluate university image attractiveness	129
5. Correlation results and hypotheses validation: Students' evaluations of university image attractiveness	131
6. Results of regression analyses: Students' evaluations of university image attractiveness	132
7. Results of regression analyses: Impact of student-university identification on students' attachment/membership intentions	135
8. Goodness-of-fit tests and values indicating good model fit	152
9. Goodness-of-fit test results for the full measurement model	174
10. Summary of results for hypothesis testing	186
11. Summary of fit results for unconstrained and tau-equivalent (constrained) models	188
12. Estimates for Student-university identification → Student's supportive intentions among the groups that act as moderators	189
13. Model fit results for the two samples	190

Appendices

1. Pilot study questions	234
2. Final survey questionnaire	236
3. Tutor briefing sheet	242
4. Profiles of interviewees in pilot study	243
5. Missing values in final survey	245

Acronyms and abbreviations

ACE	American Council on Education
AMOS	Analysis of Moment Structures
ANOVA	Analysis of variance
CAA	Commission for Academic Accreditation (UAE)
CASE	Council for the Advancement and Support of Education (US)
CEQ	Course Experience Questionnaire (Australia)
CFI	Comparative Fit Index
CMIN	Term used by AMOS for the chi-squared (χ^2) test
CR	Critical ratio
DF	Degrees of freedom
DIAC	Dubai International Academic City
EAIE	European Association for International Education
EU	European Union
FMCG	Fast moving consumer goods
GATS	General Agreement on Trade in Services
HEIs	Higher education institutions
KHDA	Knowledge and Human Development Authority (UAE)
LISREL	Linear Structural Relationships
MANOVA	Multivariate analysis of variance
MBA	Master of Business Administration
MENA	Middle East and North Africa
MoHESR	Ministry of Higher Education and Scientific Research (UAE)
NFI	Normed fit index
NRS	National Readership Survey
NSS	National Student Survey (UK)
OECD	Organisation for Economic Co-operation and Development
RMSEA	Root Mean Square Error of Approximation
SE	Standard error
SEM	Structural equation modelling
SPSS	Statistical Package for the Social Sciences (previously)
TNHE	Transnational higher education
UAE	United Arab Emirates
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UQAIB	University Quality Assurance International Board (UAE)
US	United States
USP	Unique selling proposition
WTO	World Trade Organisation

Acknowledgments

In particular, I would like to express thanks and gratitude to my lead supervisor Professor Jeroen Huisman, who was always available with valuable advice and support throughout my doctoral research journey, and also to my supporting supervisor Professor John Davies.

Abstract

This research aims to identify the process by which students form images of universities, the extent to which students' favourable evaluations of image attractiveness lead to student-university identification, and the extent to which perceived image attractiveness and student-university identification determine planned behaviour, i.e., supportive intentions, including student choice of institution.

Full-service international branch campuses offering complete degree programmes are a fairly new phenomenon on the higher education landscape and potential students have limited knowledge about them and the institutions that own them. It is interesting therefore to discover whether these students do in fact hold images of international branch campuses. The research was conducted in the United Arab Emirates (UAE), the country that hosts more international branch campuses than any other worldwide.

The study adopted a deductive, quantitative method, which involved a survey questionnaire completed by potential university students (year 12 and 13 high school students). This research stands out from earlier work on organisational identification, as earlier studies focused on existing consumers or employees while this study considers *potential* consumers (students). The research included a pilot study that involved individual interviews with members of the target population, which ensured research design validity. Data were analysed using a variety of techniques including exploratory factor analysis, multiple regression and structural equation modelling.

The findings of this study provide support for the proposition that individuals can identify with universities in the absence of formal membership – with no or minimal previous interaction between the individual and the university – and that student-university identification can lead to supportive intentions among prospective students. These findings suggest that institutions would benefit from articulating and communicating their identities clearly, coherently and in a persuasive manner, and emphasising those aspects of the university's identity that prospective students will perceive as prestigious, distinctive and similar to their own identities.

Chapter 1 Introduction

1.1 Contextual background: the international branch campus

Over the last decade, the international branch campus has become a prominent feature in transnational higher education. The term 'transnational education' refers to programmes in which learners are located in a country other than the one in which the awarding institution is based (McBurnie and Ziguras 2007, p. 21), and an international branch campus is an educational facility where students receive face-to-face instruction in a country different to that of the parent institution. There are two features that distinguish branch campuses from other forms of transnational education that also adopt a physical 'bricks and mortar' approach: first, a branch campus operates under the same name as its parent institution, and second, the qualifications that the students gain bear the name of the parent institution (Wilkins 2010).

At the start of 2012, there were at least 200 international branch campuses worldwide, and 37 of these were located in the United Arab Emirates (UAE) (Lawton and Katsomitros 2012). The UAE has more international branch campuses than any other country. The largest source countries of international branch campuses globally (where the parent institutions are based) are the United States (US), Australia and United Kingdom (UK) (Lawton and Katsomitros 2012). It has been estimated that by 2025 transnational education will account for 44 per cent of the total demand for international education (Bohm et al. 2002).

There is generally an expectation among stakeholders - such as students, parents and employers - that an international branch campus will deliver the same programmes and adhere to the same standards and procedures that apply at its home campus (Altbach, 2010). Furthermore, in order for a branch campus to be registered, licensed or legally recognised locally, its management must often demonstrate to a local accreditation body that the branch replicates as far as possible the structures and operations of its home campus. In addition, most host countries have quality assurance agencies that have the same expectation. However, Altbach (2010) suggests that the total product offerings of international branch campuses rarely come close to the home products in terms of breadth of curriculum, quality of academic staff, physical environment, learning resources and social facilities.

Regarding staff quality, the ability to recruit faculty who have experience of teaching at the home campus or at least of teaching in the country where the home campus is located is one of the biggest challenges facing branch campus managements. Senior academics are often unwilling to leave their work or uproot their families and junior staff are concerned that spending time overseas will damage their future career prospects. Some branch campuses

have organised programme delivery in such a way that professors from the home campus can 'fly in' for short periods of intensive teaching. This mode of delivery has generally not proved cost-effective or popular with students, and regulatory bodies such as the UAE Ministry of Higher Education and Scientific Research (MoHESR) discourage it.

Also, most international branch campuses are relatively new and therefore they have not yet had enough time to develop the scale needed to replicate the home campus offering. Branch campuses typically offer a limited curriculum and very often specialise in subjects such as business, management and information technology, which are relatively cheap to establish and which can easily accommodate high student numbers. For example, 43% of all students at non-federal institutions in the UAE study one of these three subjects (Aboul-Ela 2009). Most branch campuses lack the range of physical facilities and services found at home campuses, such as libraries housing extensive collections, sports and leisure facilities, student accommodation, specialist careers advice and support, and extra-curricular activities. It is interesting therefore to discover how branch campuses are perceived by potential students.

1.2 Purpose of research

In transnational higher education delivered through branch campuses it is virtually impossible to completely replicate the 'product' across countries, because education is delivered by individual professors, the architecture and physical surroundings of home campuses cannot be reproduced overseas, and local students most likely have different expectations and requirements, both in the classroom and regarding extracurricular activities and recreational facilities. Also, education is a social process, which is influenced by local customs, cultures and traditions. This makes transnational higher education a particularly unique and interesting context in which to conduct this research.

Most of the international branch campuses in the UAE were established after 2005. With names such as Heriot-Watt, Middlesex and Murdoch, these universities are likely to have been previously unknown to potential students living locally. It is interesting, therefore, to discover the extent to which sixth form high school students in the UAE are able to form distinct images of university branches and whether these students are able to identify with any of the institutions.

The images that students hold of different universities, and their identification with these institutions, impact upon the students' planned behaviour, i.e., their supportive intentions and their choice of where to study. Organisational image and student-university identification are therefore important concepts for institutions, as they contribute to determining student

enrolments and the viability/profitability of institutions. This study investigates how high school students form images of universities and it seeks to discover whether individuals can identify with organisations when they are not a member (student) of those organisations.

High school students were considered a homogeneous group that represented a suitable unit of analysis for which it would be relatively straight-forward to obtain data. Previous communications with various branch campuses in the UAE indicated that they would not be interested or willing to participate in this research, so by focusing on potential undergraduate students it was not necessary to directly involve any branch campuses in the research process.

A conceptual model was developed that comprises four stages: image formation → student assessment of image attractiveness → student-university identification → students' behavioural intentions. Structural equation modelling was used to assess the extent to which student perceptions of university image and organisational identification determine students' supportive intentions, including where students choose to study. It is recognised that students can offer support to an institution in various ways without ever becoming or desiring to become a student of that institution, e.g., by engaging in behaviours that benefit the organisation, such as wearing clothes that bear the institution's name (which can act as a form of promotion) and by engaging in positive word of mouth, based on the student's own research and perceptions, and on the communications/experiences of friends and family members. The research aims to make several theoretical contributions to the literature. This is the first study that has sought to test the relationship between organisational identification and buyer behaviour among *potential* customers rather than existing customers using measures specifically designed for this purpose.

The findings of the study contribute to the corporate image and organisational identification literature on service sector organisations that operate in multiple countries. In particular, the research sheds light on the formation and management of multiple identities based on the home and overseas subsidiaries (international branch campuses). In a higher education context, the research findings also enable development of student choice theory.

As corporate identity (image) can act as a powerful source of competitive advantage (Melewar and Akeel 2005, p. 41), the findings of this research are of practical value to higher education institutions (HEIs) that own, or intend to own, international branch campuses. The implementation of strategies by HEIs that boost their corporate image and strengthen organisational identification among potential students might have a positive effect on student

recruitment, thus enabling institutions to expand and achieve both growth and financial targets.

1.2.1 Research problem and research questions

Universities have ambiguous goals (e.g., achieving quality, legitimacy, profit, social responsibility) and are noteworthy for divergent professional interests (Baldrige 1971). As a result, universities need to communicate different messages to different stakeholders (Kazoleas et al. 2001, p. 206). This research investigates both the controlled (university generated) and non-controlled communication received by potential students. Universities now realise that they must use corporate and marketing communications to promote their desired identities, in order to enhance their images and attract students (Kazoleas et al. 2001). This is particularly important for branch campuses, which are generally expected to produce profit, or at least avoid financial loss.

Universities must understand the process by which students form organisational images and the factors that encourage organisational identification and positive intentions. Unlike many consumer products that are sold globally - such as clothing, jewellery, automobiles and fast food – most universities from outside the Middle East region do not possess brand images that are widely recognised in the UAE. Universities cannot fully rely on their reputations at home to draw students in the UAE, although students may use such reputations, in addition to other sources of information, to form images of the UAE branches. If universities can understand how students form organisational images then they can implement strategies that might lead to improvement of those images. Individuals seek social identity enhancement to fulfil self-definitional needs such as belongingness and they can achieve such needs as customers of organisations. So, universities also need to implement strategies that encourage student-university identification.

Student choice is a very complex process and students can be influenced by a wide range of factors. The research seeks to discover the extent to which image attractiveness and student-university identification determine planned behaviour and intentions (i.e. student choice of institution) rather than other factors, such as socio-economic status of the student/student's family, cost of tuition, location of university and parental/family influences.

The overall research question of the study can be stated as follows:

To what extent does perceived image attractiveness and organisational identification determine a student's supportive intentions for a particular international branch campus?

This research examines various aspects of image formation and evaluation and student-university identification so it is useful to specify further sub-questions, which will later aid the development of hypotheses.

- What are the sources of information and influence on university image formation among prospective higher education students in the UAE?
- What are the criteria used by prospective higher education students in the UAE to evaluate the images they hold of international branch campuses?
- What are the components of student-university identification among high school students in the UAE?
- To what extent do students' evaluations of university image attractiveness influence their supportive intentions?
- To what extent does student-university identification influence students' supportive intentions?

In addition, after analysing the research data, the study will conclude by answering the following question:

- Given the findings of the research, what are the implications and recommendations for higher education institutions?

The scope of this study is shown in Figure 1 and elaborated in Chapters 3-5. Brand identity is considered one component of corporate identity and brand management one aspect of corporate management. Although corporate and brand identities are not directly investigated in the study, these concepts are included in the literature review since they are - at least to some extent - antecedents of organisational image and identification. It can be argued that it would be invalid to study organisational image without also considering organisational identity, as the two constructs are so interlinked (Hatch and Schultz 1997).

In this research, marketing concepts and terminology have been used and students have been referred to as 'customers' (those who '*buy*' the product/service) or 'consumers' (those who *receive* or *consume* the product/service) without any implication that students should be regarded as such in a marketised system of higher education. In terms of 'buying', it should be noted that in many countries there is no real or upfront payment for higher education.

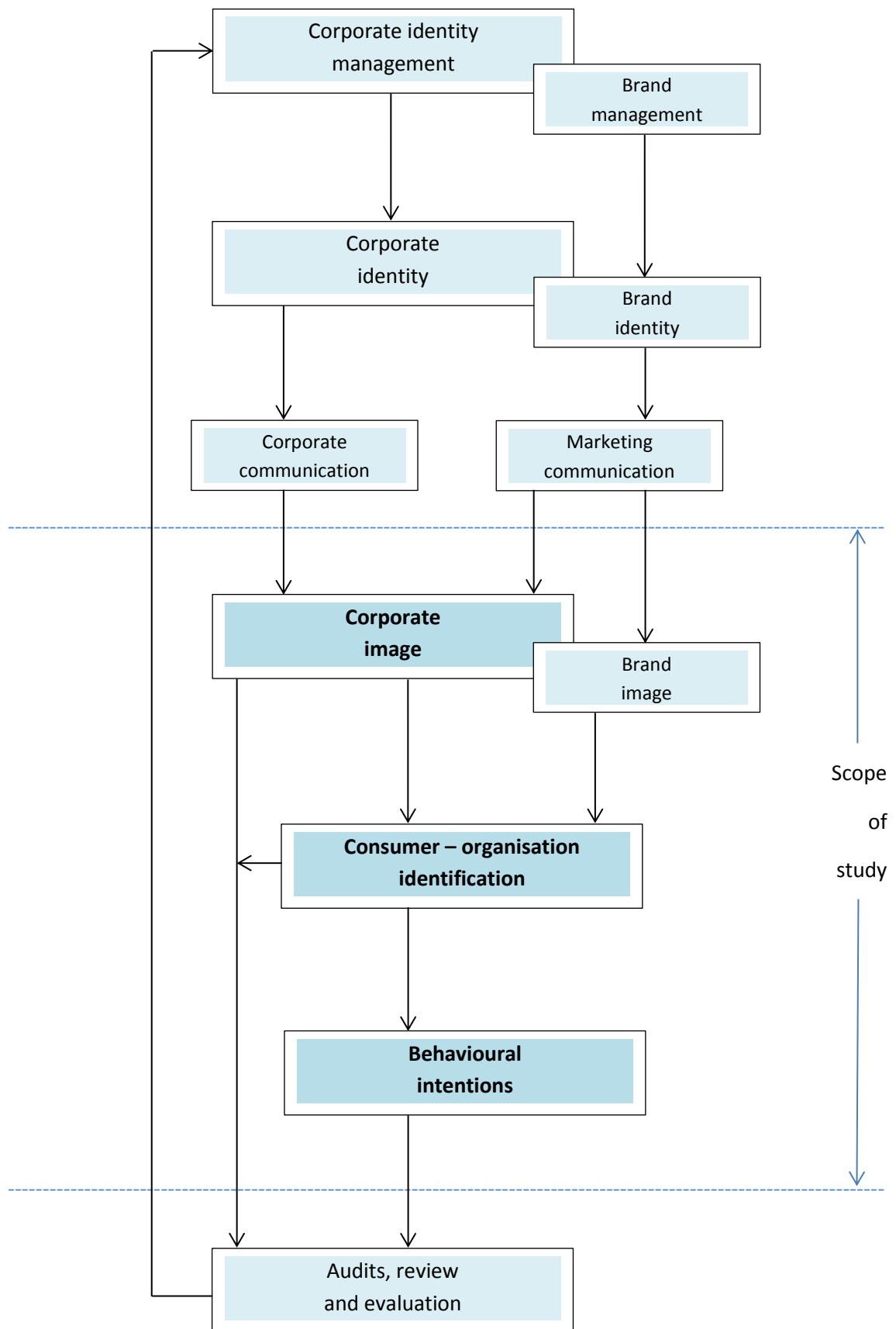


Figure 1. Scope of study.

Although the terms 'customer' and 'consumer' are sometimes used interchangeably throughout this thesis, the survey respondents are generally regarded or referred to as consumers, as they are the ones who will consume the product (receive the education). This research is interested in a student's decision to 'buy' a certain product (enrol at a particular university) and it is not concerned about who pays for it or how they pay for it. It is assumed that it is the student who chooses the university/universities that he/she applies to, though in practice, this might be the institution/institutions recommended or chosen by parents. The research method will allow students to specify the extent to which 'their' decision has been influenced by parents, relatives or others.

1.3 Research strategy

The UAE serves as a suitable case study for this research into university image and student-university identification in transnational higher education as the UAE hosts more international branch campuses than any other country and Ahearne et al. (2005, p. 575) claim that identification is more likely to occur when the 'customer' perceives there to be a distinct comparison set. Ivy (2001, p. 276) argues that university image is not absolute, but relative to the images conveyed by other universities, so having a larger number of competitors should enable individuals to more clearly differentiate amongst institutions. On the other hand, having such a large number of competitors might just be bewildering for students trying to choose a university.

A thorough literature search of relevant UAE-based secondary sources was conducted to guide the analysis of the primary results. The study adopts a deductive, quantitative approach to answer the research questions. Specifically, it involves a self-completed survey questionnaire completed by year 12/13 high school students in the UAE (i.e., by students in their penultimate or final years of secondary education – equivalent to grades 11/12 in the American and Indian school systems). The respondents are, therefore, potential customers for the international branch campuses operating in the UAE. A pilot study involving individual face-to-face interviews with members of the target population was conducted in January 2012, to trial the draft survey instrument and to collect qualitative data that might be used to improve the questionnaire and provide background information that might aid a deeper understanding of the research problem and context, and future data analysis.

1.4 Structure of thesis

Chapter 2 provides background information on the research context: the growth of transnational higher education and international branch campuses, and a literature review on

student choice, which examines both the development of student choice theory and empirical research. Although this study focuses on organisational image and identification, these constructs are considered in the context of student choice. In Chapter 3, higher education marketing and branding is examined. As Figure 1 illustrates, organisational marketing and branding activities are among the antecedents of university image formation and organisational identification.

Chapter 4 introduces the theoretical framework, in which the constructs and definitions used in the study are specified. Then, Chapter 5 discusses the conceptual framework and explains the rationale for the hypotheses while in Chapter 6 the methodology of the study is explained and justified. The results are presented in Chapters 7 and 8, with Chapter 7 containing the preliminary analysis and Chapter 8 the structural equation modelling. Finally, Chapter 9 provides a summary of the findings, a reflection on the research methodology, a discussion on contributions of the study and the implications of the findings for HEIs.

Chapter 2 The context: transnational higher education, international branch campuses and student choice

2.1 Globalisation and internationalisation of higher education

Globalisation and internationalisation are two terms that are closely related and although they are often used interchangeably they do in fact refer to two distinct phenomena. Yang (2002, p. 82) defines globalisation as the social processes that transcend national boundaries as an economic process of integration between nations and regions, which ultimately affects flows of knowledge, people, values and ideas. Steger (2003) identifies four broad dimensions of globalisation: the economic, the political, the ideological and the cultural. These dimensions are interlinked and affect one another. For example, what happens in the economy is often dictated by political decisions and imperatives, and political decisions themselves are embedded within deep ideological and philosophical contexts (Maringe 2010, p. 19). The economic dimension of globalisation refers to the intensification and interconnectedness of economic activities, increased monetary and trade flows, and increased liberalisation of trade - including higher education – which has been encouraged by the World Trade Organisation (WTO) and the General Agreement on Trade in Services (GATS) (ibid.).

Altbach et al. (2009) assert that the notion of control clearly distinguishes globalisation from internationalisation. Globalisation and its effects are beyond the control of organisations or individuals, whereas internationalisation can be seen as the strategies adopted by organisations to respond to the demands and effects of globalisation. Therefore, although some universities might not be particularly international, they are all subject to the same processes of globalisation – as objects of these processes and as subjects or key agents of globalisation (Scott 1998, p. 122). Maringe and Gibbs (2009, p. 85) suggest that the internationalisation of higher education is the response of HEIs to globalisation influences. Burnett and Huisman (2010, p. 117) consider globalisation in higher education in terms of increased connectedness, with results including increased information for students globally on where to study, increased study choices beyond national boundaries and increased competition for foreign students between HEIs worldwide.

Within the global higher education landscape, nations and institutions are both ‘positioned’ and ‘position-taking’ (Bourdieu 1993). Nations are positioned by their inherited geographies, histories, economies, cultures and political systems (Marginson and Van der Wende 2007, p. 16), but in the long term, nations and institutions can improve their higher education systems by their own efforts. In the short term, they must do with what they have, as every ‘position’ within the global landscape suggests global ‘position-taking’ moves corresponding to it. For

example, nations with strong research bases, such as the US and UK, can more easily attract doctoral students, both at home and abroad (via branch campuses), whilst Germany, with its expertise in high quality vocational education, can offer vocational education provision and related consultancy services worldwide (as it has done in Abu Dhabi).

The capacity of nations and institutions to operate globally depends on both their potential and motivation to do so. Influencing factors include size and wealth of economies; systems, resources and techniques of governments; cultures and languages; skills and talents of people; quantity and quality of research output; reputation and quality of institutions; availability of funding and subsidies; and the extent of entrepreneurial spirit in institutions (Marginson and Van der Wende 2007, p. 18). A thorough literature search of relevant UAE-based secondary sources was conducted to support the analysis of the primary results.

Australian and UK universities tend to be driven towards internationalisation and overseas expansion for economic reasons, but it is notions of competitive influence and establishing themselves as global brands that often drives US institutions (Caruana and Spurling 2007, p. 34). Marginson and Van der Wende (2007) note that there is scope for second tier institutions to build new roles for themselves through global alliances and product offerings. These institutions can then leverage their global roles to elevate their standings in their nations of origin.

Internationalisation in higher education occurs both at home and abroad (Knight 2004). Internationalisation at home typically consists of strategies and approaches designed to inject an international dimension into the home campus experience, for example by including global and comparative perspectives in the curriculum or recruiting international students and scholars (Altbach et al. 2009). Internationalisation abroad, in contrast, involves HEIs projecting themselves out in the world, for example by establishing partnerships with HEIs in other countries, by opening branch campuses abroad and by sending their students overseas for study or internships (Altbach et al. 2009).

Five key trends can be identified in the internationalisation of higher education globally (Hatakenaka 2004). First, the number of students studying outside their home country has risen dramatically. In 2007, more than 2.8 million students were studying abroad, which represented a 53% increase since 2000 (Altbach et al. 2009). Second, staff mobility has also risen rapidly. Much of the movement of academic staff has been associated with 'brain drain', a term that refers to the emigration of scientists and educated professionals from one country, typically a Third World or less developed nation, to another, usually a developed one. Third,

international collaboration, in both research and teaching, has increased. Fourth, the increased marketisation of higher education witnessed globally accompanied by students paying higher contributions toward the cost of their study has seen professional subjects such as business and computing science/information technology grow in popularity. Finally, there has been a rapid increase in transnational education, particularly during the last decade in the form of international branch campuses. More recently, other researchers have commented on the myths of internationalisation (Knight 2011a) and the trend for institutions to treat internationalisation as a goal itself rather than as a means to an end (Brandenburg and de Wit 2011).

The term 'transnational education' refers to educational programmes in which the learners are located in a country other than the one in which the awarding institution is based (McBurnie and Ziguras 2007, p. 21). Transnational programmes are usually delivered in one of three ways: through distance education, partner-supported delivery or a branch campus, although various hybrid models also exist, such as Internet delivery supported by short intensive blocks of face-to-face teaching (as used by Manchester Business School in various locations worldwide). Scott (2000) suggests that despite numerous examples of successful distance education and 'distributed learning' globally, the university still has a very strong sense of 'place'. Universities possess a strong physical presence, as they are usually places students go to regularly, often for several years of their lives, while others are excluded.

The internationalisation of higher education has been greatly influenced by the policies and ideologies of governments. Governments often have to deal with conflicting objectives, such as increasing higher education capacity - to widen accessibility and increase participation among their populations - whilst at the same time controlling public expenditures. Increasingly, governments have turned to the private sector (including foreign universities) in order to increase higher education capacity, widen the curriculum, improve quality and reduce public expenditure. Countries such as Malaysia, Qatar, Singapore and the UAE have established themselves as higher education hubs, introducing policies that promote private higher education provision and offering incentives (such as subsidies, interest free loans and land/premises) to foreign universities that establish branch campuses.

The governments of Abu Dhabi, Qatar and Singapore have targeted elite universities from around the world and invited them to establish branch campuses, usually funding all or most of the institutions' costs, while in other locations, such as Dubai and Malaysia, it has tended to be the economic interests of institutions that has driven their decisions to establish branch campuses (Altbach et al. 2009). Foreign universities have brought many benefits to host

countries. They have contributed to increasing higher education capacity substantially in several host countries; reducing youth unemployment; increasing labour market nationalisation (particularly in the Arab Gulf States); creating more highly diversified, knowledge-based economies; reducing currency outflows caused by nationals studying overseas; and reducing emigration of highly skilled labour (Wilkins 2011). For example, Altbach (2004) found that approximately 80% of students from China and India who go abroad do not return home immediately after obtaining their degree. The proportion of foreign doctoral graduates who do not return home is particularly high in the US, where there are attractive career opportunities and relatively easy immigration procedures. From 1987 to 2001, the 'stay rate' for foreign doctoral graduates in the US increased from 49% to 71% (OECD 2004a, p. 159).

HEIs in Western countries such as Australia, the UK and US are often encouraged by their home governments to expand overseas as part of internationalisation strategies that might contribute to reducing the institutional reliance on public funding whilst at the same time increasing national income and national competitiveness and influence. By 2004, UK higher education generated £4 billion revenue a year in the global marketplace, which represented about 40% of the total achieved by the UK's education and training sector, itself one of the top five sectors for generating export income for the UK (Tysome 2004).

The commitment of nations to the liberalisation of educational markets in initiatives of the WTO, in particular the GATS, has acted as a driver to promote higher education internationalisation (Van Vught et al. 2002, p. 104). The GATS aim to increase the global trade in services, including higher education, by prohibiting any barriers that might restrict trade, such as professional standards, legislation and taxation policies. All members of the WTO are signatories to the GATS agreements and negotiations among member countries on the full liberalization of higher education are still on-going (Verger 2009), although little has been achieved since the Doha negotiations were resumed at the start of 2007.

In sum, it is perhaps the mobility of students, academics and institutions that are among the most obvious outcomes of internationalisation in higher education. Although mobility of students and academics has always existed, even among most European universities in the mid-sixteenth century (Kerr 2001), the movement of institutions across national boundaries is a much more recent phenomenon that has really only taken off during the last decade. This section has discussed how the motivations and influences on overseas expansion decisions and strategies vary among institutions but this research is primarily concerned with the motivations and perceptions of prospective students.

2.2 International students and the growth of transnational higher education (TNHE)

The number of students studying overseas globally grew from 150,000 in 1955 (Naidoo 2009) to 3.7 million in 2009 (OECD 2011). Data collected by the Organisation for Economic Co-operation and Development (OECD) reveals that international student mobility increased considerably more over the last three decades than total international migration (King et al. 2010). There is a fairly substantial body of literature that has sought to identify the motivations of international students for choosing to study overseas (e.g., McMahon 1992; Joseph and Joseph 2000; Mazzarol and Soutar 2002; Binsardi and Ekwulugo 2003; Shanka et al. 2005; Gatfield and Chen 2006; Li and Bray 2007; Maringe and Carter 2007; Chen 2008; Bodycott 2009; Padlee et al. 2010; Wilkins and Huisman 2011a). The majority of empirical studies have been concerned with examining the movement of students from Asia or Africa to Western countries such as Australia, the UK and US.

Most of the research on student motivations for studying abroad has adopted the 'push-pull' framework. For example, Mazzarol and Soutar (2002) examined the motivations of 2,485 students who had gone from four different Asian countries to Australia in order to take a post-secondary programme. They concluded that push factors operate within a source country to initiate the student's decision to study overseas, while the pull factors operate in the host country to attract students to that particular country over other countries.

The most common push factors are lack of higher education capacity and opportunities in students' home countries, lower educational quality, employer preference for overseas education, the unavailability of particular subjects, and political and economic problems. The pull factors most often mentioned in the literature include quality of education and reputation of country/institution, improved employment prospects, opportunity to improve English language skills and opportunity to experience a different culture. Section 2.5.2 examines the empirical research on international student choice in greater detail.

The push-pull higher education model is most often applied to international students. The Organisation for Economic Co-operation and Development (OECD) uses the terms 'international student' and 'foreign student' interchangeably (e.g., in its StatsExtracts database) and defines foreign students as, "persons admitted by a country other than their own, usually under special permits or visas, for the specific purpose of following a particular course of study in an accredited institution of the receiving country" (OECD, 2003). This definition suggests that international students are foreigners who physically move across national borders. Lanzendorf and Teichler (2003) observe that organisations compiling mobility statistics generally use the foreign nationality of students as the measure of international

student mobility. However, a study by Kelo et al. (2006) found that up to two-fifths of all foreign students had already been residents in the country prior to taking up tertiary study.

A university degree is a positional good in that some degrees offer better social status and lifetime opportunities than others. In many parts of the world, especially among less developed nations, students, parents and employers rank US and UK higher education higher than their national systems and providers. An American or British university degree is something that students all around the world aspire to achieve, but it is national and institutional reputations that determine these preferences, not teaching quality (Marginson 2006).

Foreign students are mostly self-financed and they invest in the global positional goods that facilitate greater mobility and enhanced identity (Marginson 2006). The students with the highest academic ability who are also able to pay high tuition fees and living costs are more likely to choose to study in a Western country. However, some students who might like (in theory) to undertake higher education in a Western country are unable to do so because they cannot afford the fees and expenses, or because it conflicts with social norms and customs in their country, including religion. For example, in some societies it would be unacceptable among many families for a young, unmarried daughter to study abroad unaccompanied. Offshore provision enables students to achieve a foreign degree in their home country or region through study at a branch campus or private institution offering franchised programmes. The international branch campus has rapidly become a popular form of transnational higher education (TNHE).

International branch campuses can be wholly owned by a foreign university, such as RMIT University's campus in Vietnam (McBurnie and Ziguras 2007, p. 41) or owned jointly between a foreign university and a local partner, such as the University of Nottingham's campus in China (Verbik and Merkley 2006, p. 14). The situation where teaching is provided by a local partner and not the institution that is awarding the qualifications is usually regarded as partner-supported delivery rather than as a branch campus operation (McBurnie and Ziguras 2007, p. 27).

At the start of 2012, there were over 200 international branch campuses around the world (Lawton and Katsomitros 2012) and at least 87 of these were established after 2005 (calculated using Becker 2009). The largest host countries of international branch campuses are the UAE, China, Singapore and Qatar. In 2009-10, 408,685 students were following a UK higher education programme outside the UK and since 2010 there have been more students

on UK programmes offered outside the European Union (EU) than non-EU students studying in the UK (Morgan 2011).

As institutional theory predicts, the conformity to institutional rules and normative-based decision-making by universities in the major English-speaking countries has led to these universities adopting similar structures, processes and rhetoric with regard to internationalisation strategies (Oplatka and Hemsley-Brown 2010). Between 2003 and 2008 the establishment of international branch campuses became a popular internationalisation strategy, so popular in regions such as South East Asia and the Arab Gulf States that the term 'educational gold rush' was used in the popular media to describe the eagerness of Western universities to establish overseas branches (Lewin 2008). The pace of overseas branch openings slowed considerably after 2008, as a result of the global financial crisis and economic slowdown, but several new campuses have still opened each year since 2008.

The establishment of international branch campuses are examples (in most cases) of the commodification of higher education. Gibbs (2010, p. 242) defines commodification as, "the production and delivery of goods and services for monetized exchange by capitalist firms in pursuit of profit." Commodification is commonly associated with assigning a value to something that traditionally would not have been considered in economic terms. Naidoo (2003, p. 250) observes that the perception of higher education as an industry for enhancing national (and, it can also be argued, institutional) competitiveness and as a lucrative service that can be sold in the global marketplace has begun to eclipse the social and cultural objectives of higher education generally encompassed in the conception of higher education as a 'public good'. The terms 'commodification' and 'commoditization' are often used interchangeably, although the latter term does not assume the tightly defined notion of the economist and is used more freely to mean a packaged, consumerable product capable of being considered a component of the market mechanism (Gibbs 2010, p. 243).

Researchers have increasingly analysed the negative aspects of internationalisation and commodification (e.g., Naidoo 2003; Altbach 2004; Hatakenaka 2004; Luijten-Lub 2007; Marginson and Van der Wende 2007) and this is discussed further in section 2.3. It is worth noting here however that if the public (including potential students) perceive that a branch campus exists principally to make profit, this could impact upon the image formed of the institution by individuals, who may also be more likely to question the quality of the institution. A possible danger for students is that skilful branding and marketing can help institutions to project an image of high quality when quality is in fact considerably lower (Naidoo 2007).

This section has shown that the provision of transnational higher education at international branch campuses has become a prominent feature of the international HE landscape and that it is an area worthy of further research.

2.3 Previous research on the internationalisation of higher education and transnational higher education

The internationalisation of higher education is a topic that has received considerable attention in the scholarly literature during the last two decades, with hundreds of articles published covering a wide range of themes. However, in their review of research on internationalisation in higher education between the mid-1990s and 2007, Kehm and Teichler (2007, p. 261) note that much of the research in this area is published in the 'grey literature' and distributed in ways that require enormous efforts to obtain it, often because it appears in expensive and less accessible books or in institutional publications and specialised journals that are not devoted to the study of higher education.

The grey literature is a popular channel for distributing findings and ideas on higher education internationalisation as these publications are generally targeted at practitioners and policy makers rather than academic scholars (Huisman 2007). One possible reason why research on higher education internationalisation has been written for practitioners and policy makers is that it has been public sector bodies (such as the British Council) and practitioner research associations (such as the International Association of Universities) that have funded much of the work. Tight (2004, p. 395) observes that even in the academic literature the majority of higher education research originating from outside North America tends to be atheoretical. The relatively low level of theory development is a weakness of the field as it hinders formation of a core body of knowledge that is generalisable (Huisman 2007).

Scholars from diverse disciplines - including education, public administration, management, history and sociology - undertake higher education research. Interdisciplinary research is not common and as a consequence the literature on higher education internationalisation is scattered (Huisman 2007). Another factor that hinders the development of higher education internationalisation as a field of research is that more than half of all publications are not written in English (Kehm and Teichler 2007).

Huisman (2007) argues that in all research on higher education internationalisation it is important to first clarify what is meant by the term 'internationalisation'. The search for meaning is conducted in a wide range of contexts. A common approach to exploring and understanding internationalisation in higher education is to review the current strategies of

institutions and the concept of 'global dimension' in all of its applications (e.g., De Vita and Case 2003; Huang 2007; Childress 2009; Burnett and Huisman 2010). As a response to globalisation, higher education internationalisation has been examined in a variety of contexts, e.g., government motivations and national responses (Huang 2007; OECD 2004), the use and role of networks (Beerkens 2004), the privatisation and marketisation of higher education (Levy 2003; Duczmal 2006), its impact on students or on the institutions themselves (Huisman and Van der Wende 2004) and institutional responses (Huisman and Van der Wende 2005).

Increasingly, governments and institutions are considering internationalisation as something that is important that should be incorporated into institutional mission statements and objectives. Based on case studies of twelve higher education institutions across Scandinavia, Stensaker et al. (2008, p. 7) found that internationalisation issues were increasingly formalised, centralised and professionalised in institutions. Governments and institutions might argue that internationalisation has widened access to higher education but anti-globalists argue for fair trade rather than free trade and open markets, as they perceive that rich nations benefit more from free trade than poor or less developed nations (Luijten-Lub 2007, p. 19). Until late in the twentieth century, higher education was generally considered a public good, but since the 1980s many universities and governments in developed Western countries seem to have adopted the view that higher education is a tradable commodity to be sold for commercial gain (Altbach 2004, p. 11).

Gibbs (2002) contends that the commoditization of higher education in the international market has pushed HEIs to adopting business models of competition without adequately questioning the appropriateness of such tools, and Naidoo (2003, p. 256) has suggested that the historic trends of inequality and declining quality in large segments of HE systems are likely to be exacerbated, an argument also supported by Hatakenaka (2004, p. 5). Some countries have concerns that the unregulated entry of HEIs from different countries could pose a threat to the quality and integrity of their own higher education institutions and systems (Luijten-Lub et al. 2005, p. 153).

Other popular areas of research on higher education internationalisation include student and academic staff mobility, teaching and learning strategies, knowledge transfer, institutional partnerships and cooperation, national systems of higher education internationalisation, transnational education and international competition (Kehm and Teichler 2007; Stensaker et al. 2008). International branch campuses as a topic of research appears less in the scholarly literature, but during the last few years there has been increased interest in them (e.g., McBurnie and Pollock 2000; McBurnie and Ziguras 2007; Lien 2008; ACE 2009; Becker 2009;

Altbach 2010; Wilkins 2010; Witte 2010; Lane and Kinser 2011; Feng 2012; Wilkins and Huisman 2012a). While McBurnie and Pollock (2000) examined transnational strategy at the institutional level, Wilkins (2010) investigated the operation of TNHE at country level, using the UAE as a case study.

McBurnie and Ziguras (2007, p. 24) claim that TNHE as a subject for research is controversy-rich but data-poor and observe that there exists no comprehensive central source of data, such as in the UNESCO (United Nations Educational, Scientific and Cultural Organization) or OECD education databases. Becker's (2009) report for the *Observatory on Borderless Higher Education* went some way to fulfilling the need for up-to-date data on international branch campuses, but it presented only a snapshot at one moment in time rather than being part of a systematic on-going collection and storage of data. In 2012, Becker's report was updated and completely rewritten by Lawton and Katsomitros (2012).

This section has presented a reflection on the nature of research on higher education internationalisation. This study contributes to the literature, as it adopts a multi-disciplinary approach, drawing upon previous research and ideas from the fields of marketing, education management and international business in order to analyse a specific problem relating to student perceptions of international branch campuses.

2.4 The realities of transnational higher education in a competitive higher education hub

Since the mid-1980s, HEIs in countries such as Hong Kong, Malaysia and Singapore increasingly embraced the concept of collaboration with foreign universities and private institutions in these countries began offering franchised programmes (Hatakenaka 2004). However, in Malaysia in the 1990s, only 7.2% of those of university age were actually enrolled on a programme of higher education (Morshidi 2005); the corresponding figure was 15% for Singapore in 1990 (Mok 2008), and, even in 2007, only 18% of nationals in Qatar had a bachelor's degree (OBHE 2009). In their quests to develop as knowledge economies and to expand their higher education capacities, from the late 1990s a number of governments in the Middle and Far East set the goal of establishing their nations as higher education hubs (Hatakenaka 2004), hereafter referred to as the *new* higher education hubs. The term 'education hub' is used by countries that are trying to build a critical mass of local and foreign actors, which include students, HEIs and knowledge industries, who engage in education, training, knowledge production and innovation initiatives (Knight 2011b).

Some nations have set aside land or established zones as locations for HEIs to start new operations. The most notable examples in the Middle East are Dubai International Academic

City (Dubai, UAE), Academic City (Abu Dhabi, UAE), University City (Sharjah, UAE), Ras al Khaimah Free Trade Zone (Ras al Khaimah, UAE) and Education City (Qatar), and in the Far East, Singapore, Malaysia (EduCity), Hong Kong and South Korea (Incheon Free Economic Zone). Most of the international higher education hubs offer particularly favourable conditions for foreign branch campuses (Becker 2009, p. 15). At Dubai International Academic City (DIAC), for example, foreign HEIs enjoy 100% foreign ownership, no taxes, 100% repatriation of profits and exemption from the licensing requirements of the federal Commission for Academic Accreditation (CAA). All private HEIs in the UAE (outside the free zones) are required to be licensed by the CAA and to have each of their academic programmes individually accredited. The CAA's standards are based on a US model and cover all of the main activities of an educational institution.

DIAC is currently home to over thirty academic institutions including Middlesex University and Heriot-Watt University (both based in the UK), the University of Wollongong and Murdoch University (both based in Australia), and, from the US, Michigan State University (which now offers only postgraduate programmes). The University of Wollongong, which opened its branch in Dubai in 1993, was the first foreign university to set up in the UAE and at the end of 2011 it had 3,650 students enrolled on a range of undergraduate and postgraduate programmes (www.uowdubai.ac.ae). Heriot-Watt University only entered the UAE and established its campus at DIAC in 2005 but has grown rapidly, having over 2,000 students by 2011 (Heriot-Watt 2011).

In 2008, DIAC announced that its long-term plan was to host around 40 institutions that would cater for 40,000 students, who would come from the entire Middle East, North Africa and South Asia (Bardsley 2008). Dubai is not alone in having ambitions of acting as a regional higher education hub, attracting large numbers of foreign students. Singapore's Global Schoolhouse project aims to attract a number of elite universities from around the world to establish campuses that will provide higher education to 150,000 students by 2015 (Sidhu et al. 2010). Hong Kong, Malaysia, South Korea, and even Mauritius are other examples of nations that intend to establish or strengthen their positions as international higher education hubs over the next decade (Hacket 2006, Singh 2009; Wilkins and Huisman 2011a).

In 1995, 20% of Malaysians undertaking higher education were studying overseas (Ziguras 2001), which made Malaysia one of the world's top source countries of international students (Hatakenaka 2004). Hong Kong, Singapore and the Arab Gulf States were also major source countries of international students, who typically went to study in Australia, Canada, the UK or US. Each year billions of dollars of foreign exchange is drained from source countries due to

their nationals studying abroad. Encouraging private or foreign institutions to establish (and expand) operations, turning source countries of international students into host countries, has helped stem currency outflows, reduce youth unemployment and address skills shortages in these nations.

There are other potential benefits for countries that host foreign universities. Singapore, in particular, hopes to attract high quality foreign students who will not only bring revenue to the country during their period of study, but who will stay as employees or entrepreneurs after they graduate, and then the presence of such individuals will have a multiplier effect, attracting more world-class research and successful multinational corporations (Gribble and McBurnie 2007). It was around the turn of the century that large well-known public and private universities from Western countries began at a faster pace to establish campuses in the new higher education hubs.

The new higher education hubs expanded capacity rapidly and very significantly. For example, in 2006, Malaysia had over 400 private institutions, which included 13 private universities and four international branch campuses (Tham and Kam 2008) and by 2004 27,731 international students were studying in private HEIs (Mok 2011). In 2006, 80,000 international students were studying in Singapore and by 2012 18 foreign universities had established branch campuses – including INSEAD (Institut Européen d'Administration des Affaires), the University of Chicago and New York University - making Singapore the second largest host of international branch campuses globally (Lawton and Katsomitros 2012).

The governments of the countries acting as regional higher education hubs may want to increase capacity as much and as fast as possible, and to increase choice for students, but this has resulted in highly competitive markets with HEIs having to compete fiercely for students. In some locations, such as the UAE, it seems that there has even been short-term over supply of capacity in the private higher education sector (Wilkins 2010). By 2012, at least 18 international branch campuses had closed worldwide, due mainly to insufficient student enrolments (Lawton and Katsomitros 2012). Failed institutions include the University of Southern Queensland in Dubai, US-based George Mason University in Ras Al Khaimah (UAE) and the University of New South Wales in Singapore. The University of New South Wales survived in Singapore for only two months in 2007 before closing, having enrolled just 148 students (Ng and Tan 2010), which resulted in a loss of \$US38 million to the university (Becker 2009). There is evidence to suggest that many universities have the tendency to overestimate future student enrolments and underestimate costs when establishing branch campuses overseas (Gribble and McBurnie 2007).

The American and British higher education systems have reputations for high quality and excellence, which are recognised globally. For example, a survey of students taking a British qualification at two institutions in the UAE and Sultanate of Oman found that 62% of the sample believed that the UK offered the best higher education worldwide (Wilkins 2001). It is clear, however, that strong national reputations do not necessarily translate into automatic demand at the international branch campuses of Western HEIs. A university may have a good reputation and a favourable image with students at home, but overseas, potential students may perceive the institution differently. Customer-company identification is much less likely due to lack of recognition by students of the institution's brand and the absence of any type of previous interaction between the student and the institution (including the interaction of friends and family with the institution).

Institutional closures not only affect the students already enrolled, they also result in financial losses to institutions, damage to the reputations of institutions and erosion of public confidence in the reliability of TNHE, foreign providers and host countries (Gribble and McBurnie 2007). The over-supply of places in private sector higher education in the UAE during the period 2008-10 resulted in a number of problems for institutions and UAE higher education in general. At the end of 2008, the director-general of the Knowledge and Human Development Authority (KHDA), the organisation responsible for licensing private HEIs in the Emirate of Dubai, publicly acknowledged that the balance of supply and demand was 'working for students' by keeping tuition fees lower (Bardsley 2008a). This meant that several institutions were achieving lower revenues than they had been expecting or targeting.

Desperate to fill empty places, Michigan State University in Dubai adopted the highly risky strategy of trying to compete on price. The university had hoped to enrol 100 students from other universities in the second half of 2009 by offering half-price tuition fees. Although Michigan State claims that it received around 200 applications for these half-price places, only 20 students were actually enrolled as most of the other applicants had failed to meet the institution's standard entry criteria (Bardsley 2010). A possible problem for branch campuses in the new higher education hubs is that the highest quality students choose to study at elite or high-ranking universities in Western countries. Altbach (2010) claims that international branch campuses in the UAE have students who probably would not have been accepted onto the same programme at the institution's main home campus.

Once students are enrolled, there exists considerable pressure on academics to satisfy the students, which in practice often means being lenient in assessment and grading. A survey

conducted in the UAE revealed that many professors believed their students had only average or below average ability in mathematics and writing in English and that students were being awarded higher grades than they deserved (Gerson 2010). It is common for students in the UAE to plead for higher grades, often acting under parental or peer pressure. Poor course evaluations, complaining students and concerns over job security were identified by professors in the survey as some of the causes of grade inflation. It is not uncommon for academic staff at UAE HEIs to have their contracts terminated due to poor course evaluations. Excessive grade inflation and media publicity about it has dented the reputations of UAE HEIs and put pressure on the local regulatory bodies to ensure that international branch campuses are maintaining the standards achieved at their institution's home campuses. It should be noted however that grade inflation is likely an international phenomenon in higher education, affecting even countries such as the UK and US.

Although the over-supply of places in the UAE private higher education sector might be benefiting students with easier admission and tuition fees, negative results of the current market situation include institutions only offering narrow ranges of subjects and options, advertised modules not being delivered due to insufficient student enrolments, under-investment in learning resources and social facilities, and narrow ranges of extra-curricular activities (Wilkins 2010).

Several of the new higher education hubs – particularly the UAE, Malaysia and Singapore – are highly competitive. It is possible that many second-tier or lower ranking institutions are finding it difficult to differentiate themselves in a crowded marketplace. Although it is possible for universities to establish and be recognised as strong international brands, it is relatively difficult to gain a unique selling proposition (USP) in higher education. Previous research has found that university image is an important factor in determining student behaviour (Mazzarol 1998; Bourke 2000; Nguyen and LeBlanc 2001; Palacio et al. 2002; Helgesen and Nasset 2007; Sung and Yang 2008; Alves and Raposo 2010), but these studies examined the attitudes and perceptions of existing students or staff rather than potential students. The studies were interested in student satisfaction, loyalty and future intended behaviour rather than student recruitment.

As international students are often not familiar with the performance or reputation of second-tier or lower ranking Western HEIs in the countries where the institutions are based, and may have had no interaction with their overseas branches, it might be expected that many students find it difficult to form strong and distinct images of these institutions. Mazzarol and Soutar (1999) argue that HEIs must develop and implement strategies that give them a

competitive advantage, and Hemsley-Brown and Goonawardana (2007) suggest that this can be done by effectively developing, protecting and marketing their brands.

2.5 Student choice in the literature

Student choice of institution for higher education is a subject that has been widely researched. Researchers have identified a wide range of determinants of student choice. Murphy (1981) concluded that academic reputation and cost were two of the key influences on student choice. Maguire and Lay (1981) identified size of institution, location, availability of special programmes, peer influence, availability of financial aid, sports facilities and social facilities as the factors considered most by students when choosing a college. Similarly, Disenza et al. (1985) and Hossler (1985) found academic reputation, location, peer influence and availability of financial aid as the most important factors. Research has indicated that high ability students seek different institutional attributes compared to other students; for example, they give greater weighting to issues of institution and programme quality (Tierney 1983; Seneca and Taussig 1987). Joseph and Joseph (1998) suggested that male students gave more weighting to both academic value of education and campus social life than their female counterparts.

Prior to the 1990s, most of the studies examining student choice in higher education were conducted in the US. Soutar and Turner (2002) suggest that marketing and higher education researchers (particularly in Australia and the UK, in addition to the US) have become increasingly interested in student choice and decision-making because of the transformation of higher education globally from state-funded systems supporting a public good to marketised systems selling a private good, where students are responsible for paying for more or all of the cost of their education and institutions are expected to operate more like businesses to generate income. Researchers have adopted a variety of approaches to examining and explaining student choices of institution for higher education. Ryrie (1981), Roberts (1984) and Gambetta (1996) worked with structural models, which consider the institutional, economic and cultural influences and constraints that students face. Fuller et al. (1982), Manski and Wise (1983) and Kotler and Fox (1985) used economic models, which assume that students are rational and consider the value of each alternative available to them in terms of costs and benefits. The economic models assume therefore that students seek information in their decision-making process, but in reality students are often irrational and ill informed, basing their decisions on general impressions and their perceived images of institutions (Baldwin and James 2000).

A third group of models are based on the importance of personality and subjective judgement in the decision-making process. Hodkinson et al. (1996) argued that although student decision-making is a rational process, it is constrained by a realistic perception of opportunities and shaped by individual personality. Hemsley-Brown (1999) found that students used objective reasoning to compare the characteristics of different institutions, for example, buildings, facilities and programmes of study. Students also revealed underlying motives for their choices, such as the social class or visual appearance of students attending the institutions and the need to preserve or enhance their own self-image. These findings confirm the importance of institutional image and student-institution identification in the student decision-making process, particularly in the preliminary search stage.

Hemsley-Brown (1999) classifies the underlying reasons for choices as 'non-utilitarian' factors, and she groups them under two headings: first, 'preconceptions', which includes social and cultural frames of reference, self-image and group identity, and secondly, 'psychological defence mechanisms', which includes distortion and exaggeration, post-hoc justification, self-deception and self-appeasement. In the preliminary search, high school students rely heavily upon an informal gathering of information from family and friends (Hemsley-Brown 1999).

Students enter the preliminary search stage of the decision-making process with a set of preconceptions, which affects their willingness to pursue a particular option and which serves as a filter mechanism when assimilating information later in the process (Hemsley-Brown 1999, p. 87). Psychological defence mechanisms are employed during the decision-making process to protect self-image and preserve self-esteem. Students seek social approval and some use self-deception to prepare themselves for 'self-appeasement' and the announcement of their decision to others (Hemsley-Brown 1999). Self-deception allows the student to rationalise their decision so that they can convince themselves that the decision they make is the best one given their circumstances, and in so doing they may ignore any negative factors associated with their choice. This allows the student to feel appeased and more satisfied with their decision.

The increased interest in student choice and decision-making among both researchers and practitioners, and in particular international student choice, has led to the development of a number of conceptual models and the undertaking of empirical research, discussed in Sections 2.5.1 and 2.5.2.

2.5.1 Conceptual models of student choice

Hemsley-Brown and Fosskett (2001) developed an integrated model that brings together elements of the structural, economic and subjective approaches. The four components of their 'Four Cs model' are: Context (home/school/social environments), Choice influencers (people and processes, such as media, influencing choices), Choosers (balance of decision-making power between the student and their parents/family) and Choice (career, pathway, institution, programme). Hemsley-Brown and Fosskett (2001) argue that student choices are never completely rational, but they are also not irrational or random, and they are influenced by family, social context, institutional context (including the role of teachers and schools in shaping choices), academic pathways to further education (and employment), perceptions and images, protection and enhancement of self-image, students' ability to achieve their preferred choices, and changing circumstances that may cause the student to change their decision over time, for example, when the student realises that their original choice was unrealistic due to over-optimistic predictions of their likely performance in the examinations needed to gain entry to higher education.

A number of researchers have proposed that student decision-making is a process that involves progression through a number of stages. Jackson (1982) suggested that the student decision-making process has three stages: the first is concerned with the student's preferences; the second involves creating a list of institutions to exclude from further consideration; and in the third stage the student forms a choice set. Chapman (1986) argued that students (and their parents) pass through five distinct stages:

1. Pre-search – This stage involves the student thinking about their future and possible academic/career paths. During this stage the student decides whether or not to participate in higher education.
2. Search behaviour – The student seeks data to use against their decision criteria, and prepares a short list.
3. Application stage – The student applies to their selected institution(s).
4. Choice decision – The student decides which offer(s) to accept.
5. Enrolment – The student enrolls at their chosen institution on their chosen programme.

Maringe and Carter (2007) conducted a literature search on student decision-making and found that despite variations in the models, most now seem to conceptualise the decision-making process as involving five stages:

1. Identification of a problem needing a solution.
2. Search for information.

3. Evaluation of alternatives.
4. Making the purchase decision.
5. Evaluating the purchase decision.

Student decision-making can be examined at three levels:

1. Global level – the choice of country.
2. National level – the choice of institution.
3. Programme level – the choice of course of study.

This research is concerned only with the second level, i.e., choice of institution(s), although in the literature there is considerable overlap between factors associated with choice of institution and choice of country. In order to capture and consider as much relevant data and analysis as possible, this literature review does not attempt to separate institution choice factors from country choice factors. Using classifications specified in Chapman's model (1986), the survey participants in this research were either in the pre-search or search behaviour stage, as they were students in year 12, the penultimate year in high school education, or year 13, the final year. After completing their high school education, many of these students will embark on a programme of higher education in the UAE. Some might have been thinking about leaving the UAE and undertaking higher education in another country and in this case they might have been analysing institutions in the UAE to compare them against overseas institutions, to corroborate their decision (if that was the case) to study abroad.

Cubillo et al. (2006) proposed a theoretical model that integrates the different groups of factors that influence the decision-making process of international students, analysing different dimensions of this process and explaining those factors that determine student choice. The hypothetical model presented shows the purchase decision as an outcome that is dependent on five factors: personal reasons, evaluation of programme of study, and the effects of country image, city image and institution image. Prospective students consider these five elements both consciously and unconsciously in order to arrive at a final choice. The model developed by Cubillo et al. (2006) possibly overstates the importance of institutional and location images on student decision-making, and the importance or weighting of each element in the model is not specified or tested.

Vrontis et al. (2007) produced a contemporary higher education student choice model for developed countries using a contingency methodological approach, which initially utilised existing models to create a generic higher education student choice model. The core of the final model consists of the basic five-stage consumer behaviour model, as observed by

Maringe and Carter (2007). Surrounding the five stages, various factors determine choices at each of the five stages: individual student attributes; institution characteristics; secondary education characteristics; and environmental determinants (economic and cultural factors, public policies). Individual student attributes are considered in terms of customer attributes (such as race, religion, socio-economic status, parents' education and family culture) and personal attributes (such as self-image, personality, values, aspirations, benefits sought and academic ability).

Reflecting on institutional strategies to deal with the increasing complexity of student choice, Vrontis et al. (2007) argue the need for branding and improved marketing communications, the need for greater personal attention and improved customer care, and the need to pay greater attention to business ethics and social responsibility. Vrontis et al.'s (2007) model considers many more factors than Cubillo et al.'s (2006) but pays less attention to institution, city and country images; instead, it focuses on the effects and need for branding. One could conclude therefore that one model is not preferable over the other but that the two models complement each other.

The extent to which a prospective student's self-image matches how the student perceives the image of an institution will determine the extent to which that student can identify with the institution. Students are more likely to choose to study at institutions with which they identify. Family, friends, the media and marketing communications can all influence a student's choice. Kotler et al. (2008) observe, however, that in many Western countries the influence of the family has diminished and shifted more to peers and media influences. This trend has not occurred in all cultures, and among traditional Muslim families in the Middle East, and Chinese families in China too, parents may have a lot of influence over where their children undertake their higher education and are often in fact the sole decision-maker(s).

The models of Cubillo et al. (2006) and Vrontis et al. (2007) are theoretical models that were not tested empirically. Nevertheless, a number of empirical studies have been conducted to identify the determinants of international student choice, which are examined in the following section.

2.5.2 Empirical research on international student choice

The earlier research on international student decision-making sometimes examined student choice as an example of services marketing, which was itself before the 1970s not distinguished as a separate field of investigation (Berry and Parasuraman 1993; Fisk et al. 1993). As the service sector has grown in importance in most developed nations, and also the

role of higher education in this sector, the level of interest in services marketing and higher education marketing has increased. The influential *Journal of Marketing for Higher Education* was launched in 1988 and it has published several papers on international student choice (e.g., Shanka et al. 2005; Gatfield and Chen 2006; Chen 2008; Wilkins and Huisman 2011b).

McMahon's (1992) study was one of the first that attempted to model international student decision-making using empirical data. She examined the motivations of students from 18 developing countries who had gone to the US for higher education during the 1960s and 1970s. Globally, the predominant trend in student flows during this period was from peripheral, developing nations to industrialised, developed ones. In 1975, the top five host countries of international students were the US, France, the Union of Soviet Socialist Republics (USSR), the UK and the Federal Republic of Germany (West Germany). The developing countries lacked higher education capability and capacity as growing numbers of young people wanted a university degree and the individual advancement that it brought.

McMahon (1992) proposed two models to explain the flow of international students from developing countries to the US. The first model was concerned with 'push' factors that operated in the source countries, which included availability of higher education and the economic strength of each country. Conditions of home country economic weakness and greater involvement in the global economy were associated with larger flows of students to the US. Students were also more likely to come from nations where education was emphasised as a positive thing but where higher education systems were weak. The 'push' model was found to be strongest in explaining overseas study from higher income nations, where students and sponsors had the ability to pay tuition fees and overseas living expenses.

The second 'pull' model focused on the economic, political and social pull factors of the US as a destination for HE study. Concentration of trade between source countries and the US was a positive and significant factor, suggesting that specific nation-to-nation economic linkages correspond with nation-to-nation academic linkages. Financial assistance offered by the US government or US HEIs did not appear to be a 'pull' factor, indicating a degree of political autonomy. McMahon (1992) concluded that her findings fit with international systems theories, which suggest that national characteristics can be important factors in determining and explaining international interactions.

Since McMahon's (1992) study, most of the research on students' reasons for choosing to study overseas has adopted the 'push-pull' framework (Wilkins and Huisman 2011b). The push factors operate within a source country to initiate the student's decision to study overseas,

while the pull factors operate in the host country to make that country more desirable than others as a place to study and live.

In a study involving Indonesian high school students by Joseph and Joseph (2000), the factors achieving the highest mean scores were: necessary resources available; reputable degree programme; environment conducive to learning; information given on career opportunities; clean and safe environment; and good faculty. There were no significant differences between males and females, except for two items, for which both females gave higher scores: information provided to choose area of study; and reasonable entry requirements. In 2002, Mazzarol and Soutar (2002) published their influential and highly cited study, which examined the motivations of 2,485 students who had gone from four different Asian countries (China, India, Indonesia and Taiwan) to Australia to take a post-secondary programme. Mazzarol and Soutar used the 'push-pull' framework for their analysis, and are often credited with developing this approach even though researchers in the US, such as McMahon (1992), were using versions of it ten years earlier.

Mazzarol and Soutar (2002) concluded that it was economic and social forces within a home country that served to 'push' students abroad, but the decision as to which host country to choose was dependent on a variety of 'pull' factors. The majority of students believed that an overseas course was better than a local one and this was an important factor motivating their decision to study overseas. The next most important influence was the idea that they could gain a better understanding of 'Western culture' through an international education. Knowledge and awareness of a host country were important determinants of student choice, with easy access to information on the host and recognition of the overseas qualifications at home being two of the influential factors.

The reputation of an institution was found more influential than the recommendations of parents, relatives and agents in all four Asian countries, and reputation was the most important factor identified in Pimpa's (2005) study of Thai students intending to study in Australia. These findings emphasise the importance of institutional image in determining student choices. However, parental influence is very strong in many Asian countries. For example, it was found in Indonesia that many parents had sent their daughters to Australia even though the daughters would rather have gone to the US. Of the factors that were found statistically significant in influencing a student's choice of institution, the institution's reputation for quality achieved the highest mean score; next came, 'was willing to recognise my previous qualification'; 'has a reputation for quality and expertise of its staff'; and 'has links to other institutions known to me'.

Mazzarol and Soutar (2002, p. 90) predicted that the influence of 'push' factors would diminish over time, a reality confirmed nine years later by Wilkins and Huisman (2011a). Personal and human factors are also important in determining student choices, such as individual attitudes to religion and safety, and the influence of recommendations from family, friends, teachers and agents (Wilkins and Huisman 2011b). Binsardi and Ekwulugo (2003) adopted a marketing framework to investigate the motivations of international students for studying in the UK. They classified their variables of interest using the 4Ps marketing mix framework: Product, Price, Place and Promotion. Binsardi and Ekwulugo (2003, p. 322) found that most of the foreign students' needs were clustered around the core and the tangible characteristics of products (such as academic recognition, product features and follow-up services) and price (e.g., tuition fees, availability of scholarships and students' perception of value for money).

The four factors that were found to be most important in attracting international students to study in the UK were: educational standard/qualifications recognised worldwide; ease of university admissions and immigration procedures; ease of finding employment during and after study; and the costs of tuition and living. Binsardi and Ekwulugo's (2003) paper referred to factors influencing choice of institution, but these were not researched empirically. Although Binsardi and Ekwulugo identify strategies that institutions could implement to attract more international students (p. 323), it seems that this has been considered only at a macro level (i.e. attracting students to the UK), which thus ignores the competition existing between individual institutions.

In researching the motivations of international students in Australia, Shanka et al. (2005) utilised a correspondence analysis approach, which resulted in a two-dimension solution on a safety/proximity and quality/familiarity continuum. The primary goal of correspondence analysis is to transform the numerical information in a contingency table into a graphical display to facilitate the interpretation of the data (Greenacre and Blasius 1998). An important feature of correspondence analysis is its multivariate nature, which enables the treatment of categorical data. This reveals relationships that would not be detected in a series of pair-wise comparisons of variables, and it not only identifies the relationships between variables but also how they are related in a perceptual map, with similar variables plotted closer together. Shanka et al. (2005) could show, for example, that students from Singapore would more likely choose Perth over other education destinations in Australia on combinations of factors such as proximity and educational quality and variety, whereas students from Malaysia would more likely base their choice on safety and educational quality. Indonesian students picked Perth

either for its proximity or familiarity (friends living/studying in Perth). In summary, Shanka et al. (2002) concluded that no single criterion fits all students in explaining their choice of educational destination.

Gatfield and Chen (2006) studied the decision-making of students in Taiwan who intended to study in Australia, the UK or US using Fishbein and Ajzen's (1975) multi-attribute theory of planned behaviour model. The basic thesis of the theory of planned behaviour is that to understand an individual's choice behaviour it is essential to first examine their attitudes and intentions. Thus, the model is both descriptive and predictive. At any given time, there are a number of consumer attitudes towards a product or service, hence why the theory of planned behaviour is regarded as a multi-attribute model. An individual's attitudes are assessed in three categories: attitudes towards behaviour, subjective norms and perceived behavioural control.

Attitudes towards behaviour refer to the degree to which a person holds an attitude towards a particular behaviour and are measured as a numerical value. An example is, "Education in an English speaking country will improve my English skills". The term 'subjective norms' refers to the perceived social pressure associated with performing particular behaviours. The influence of 'important others', such as parents, friends and teachers, who may approve or disapprove of particular behaviours, can have a significant effect on student decision-making. Finally, perceived behavioural control refers to an individual's perception of the ease of performing a particular behaviour. For example, if cost or competitiveness were perceived as significant constraints, the student is less likely to form a strong intention to perform that behaviour.

Using factor analysis and multiple regression analysis, Gatfield and Chen (2006) found that the most important predictor of the intention to study in the US were the subjective norms. In Taiwan, parents and relatives have considerable influence over students, but word-of-mouth from others who have previously studied in the US was also found to be a key influencer. Attitudes towards behaviour was found to be important in students' assessment of the UK as a potential study destination, especially as the UK was widely perceived as being cloudy and cold, and a not exciting place to live, where there might also be personal safety problems. Gatfield and Chen (2006) recommend that UK institutions need to counter these negative attitudes with positive images, such as emphasising high quality and reputation. Although there is broad acceptance that past experience contributes to elements of attitude towards behaviour and subjective norms in the theory of planned behaviour, the students in this research had no previous experience of overseas study.

Later studies that examined the decision-making of Asian students (e.g., Li and Bray 2007; Chen 2008; and Bodycott 2009) also found that subjective norms had a significant influence over the final choice. Many parents and students across Asia see higher education as a ladder on which to climb from a lower social status, or at least as a tool to help maintain upper-middle social class and to secure well-rewarded employment. Li and Bray (2007) and Bodycott (2009) both utilised the push-pull model of international student choice to frame their research, whereas Chen (2008) adopted a marketing approach that focused on marketing activities, such as market segmentation.

Li and Bray (2007) examined the flows of students from China to Hong Kong and Macau, and although the two territories are often considered similar, they were each found to cater for different motivations. In Hong Kong, the main motivations were academic, followed by social and cultural, whereas in Macau, economic factors were most important. Students choosing to study in Macau expected to be more competitive in the labour market and to secure higher salaries after graduation. However, financial aid was also found to be important. While 86% of postgraduate respondents in Hong Kong were in receipt of a scholarship, 90% of the undergraduates in Macau were self-financed. The high rankings of some Hong Kong institutions in global league tables influenced students motivated by quality, image and reputation. The common advantages of Hong Kong and Macau (over Western countries) were the mix of Eastern and Western cultures, geographic proximity and social and cultural identity.

Like Li and Bray (2007), Bodycott (2009) also examined the decision-making of Chinese students, but Bodycott also included parents in his research. Bodycott (2009) found differences in parent and student ratings of importance and concluded that marketing practitioners should pay greater attention to cultural values when seeking to recruit students from Confucian societies. In assessing influences on decision to study abroad, parents found the following factors more important than students: employment prospects on graduation, social and emotional support services, migration possibilities, proximity to home, scholarships, cost of tuition, international standing/reputation of institution, cost of living, and level of crime and discrimination. In contrast, students rated the following factors more important than parents: onsite accommodation, English-speaking environment, qualification recognised (in China), physical study environment, campus facilities, international experiences during courses, lifestyle of host country, range of clubs and societies, and climate of host country. Bodycott (2009) found that both parents and students relied heavily on recommendations from friends and family. In contrast to most other research on international student choice, it

is notable that the students in Bodycott's study were not to a great extent motivated by institutional reputation, image or ranking.

African students are increasingly becoming a target for recruitment at international branch campuses in the Middle East, particularly in the UAE, and in South Asia. The government of Mauritius aims to establish the country as a regional higher education hub by 2020 (Singh 2009). Given that in 2009 approximately 35,000 African students were studying at Indian HEIs, the Mauritius government believes that by attracting large, dynamic private universities from India, such as Amity and DY Patil, Mauritius can become the preferred choice for thousands of African students who wish to study abroad (Singh 2009). Maringe and Carter (2007) investigated the motivations of African students who had decided to study in the UK.

The push factors identified in Maringe and Carter's study (2007) related mainly to economic and political problems and the lack of higher education capacity in home countries. The country level (UK) pull factors identified included international recognition of qualifications gained, high quality educational experience, safe environment and easy application process. The pull factors at institutional level included course availability, post qualification employment and progression data, research and teaching profiles, and accommodation costs and availability. One noticeable difference between Maringe and Carter's research, based on African students' decisions to study abroad, and other studies based on Asian students (e.g., Joseph and Joseph 2000; Mazarrol and Soutar 2002; Li and Bray 2007) is that the push factors had a far larger influence on the African students, probably because many African countries are relatively poor and/or suffering with political instability. However, although there are differences in the attitudes and motivations of students across different countries globally, students do tend to consider a fairly homogenous set of factors, which are then used to determine individual country and institution choices.

The most common push factors are the lack of places in higher education in students' home countries, the unavailability of certain subjects, insufficient quality or recognition by employers and the lack of post-study employment opportunities when study is done at home. The pull factors that most often attract students to study in Western universities/countries include the opportunity to study a greater range of subjects, the opportunity to study with other international students and with world-leading academics, the opportunity to develop English language skills and to experience living in a different culture, the possibility of gaining a qualification that will be more highly regarded by employers both in their home countries and internationally, and, possibly, the provision of the means to aid migration from their home countries on a permanent basis.

The literature review of international student decision-making and choice in the higher education literature has revealed that the push-pull model has most often been applied to students choosing to study in Western countries such as Australia, the UK and US. However, studies examining flows to other countries, particularly in Asia, have emerged more recently (e.g., Li and Bray 2007; Padlee, Kamaruddin, and Baharun 2010). A summary of empirical research on international decision-making is shown in Table 1.

Within and between studies the degree of congruence among findings is remarkable, especially as the literature has examined the attitudes and motivations of diverse student groups in terms of age, gender, level of study, ethnicity, religion and country of origin. For example, in Abubakar et al.'s (2010) study conducted at two Australian universities, located hundreds of miles apart, only two factors showed statistically significant differences between the two student groups (at each university), the two factors being 'access to computers' and 'sporting/leisure facilities'.

Institutional reputation and perceived quality of education (including quality of lecturers and facilities) stand out as the most common pull factors in the previous research on international student choice but the study by Wilkins et al. (2012) suggests that students who decide to study at international branch campuses might be motivated by convenience and personal lifestyle preferences.

2.6 Expatriate children: global nomads/third culture kids

2.6.1 Expatriate children as international students in the UAE

There is one peculiarity that is common to several of the countries that host clusters of international branch campuses: their populations consist of high proportions of expatriates and foreign workers. In 2010, nearly 26% of Singapore's population was made up of non-residents (foreigners who were working, studying or living in Singapore but not granted permanent residence) (Department of Statistics, Singapore 2010). Most of the Arab Gulf States have populations with even greater proportions of expatriates. For example, 88.5% of the UAE's population consists of expatriates and foreign workers (UAE Interact 2012).

Expatriates account for at least three-quarters of total enrolments at most branch campuses in the UAE (Wilkins, Balakrishnan and Huisman 2012). The remaining students are either UAE nationals or international students (students who have entered the UAE from other countries primarily for the purpose of education).

Table 1. Summary of empirical research on international student decision-making.

Reference	Host country(s)	Source country(s)	Factors influencing choice
McMahon (1992)	United States	Various	Economic and cultural links between source countries and host country; availability of scholarships; other assistance.
Joseph and Joseph (2000)	Various	Indonesia	Course and career information; necessary resources available; environment conducive to learning; reputable degree programme; clean and safe environment; costs.
Mazzarol and Soutar (2002)	Australia	China, India, Indonesia, Taiwan	Knowledge about host country; personal recommendations; safety; cost issues; social factors; reputation; quality of institution.
Binsardi and Ekwulugo (2003)	United Kingdom	Various	Quality of education; qualifications gained recognised; easy admission; employment during and after study; cost issues; accommodation; safety; culture.
Pimpa (2005)	Australia	Thailand	University reputation; variety of courses offered; teaching quality; employment after study; good facilities at university for international students.
Shanka, Quintal and Taylor (2005)	Australia	Various	Proximity to home; quality and variety of education; cost of living; where friends study; family recommendation; safety.
Gatfield and Chen (2006)	Australia, United Kingdom, United States	Taiwan	Recommendations from family; friends and agents; employment prospects; quality and reputation of institutions; tuition fees and costs of living.
Li and Bray (2007)	Hong Kong, Macau	China	Academic ability; social and cultural experience; economic income; ability in employment market; quality of education; internationalisation factors.

Reference	Host country(s)	Source country(s)	Factors influencing choice
Maringe and Carter (2007)	United Kingdom	Africa	Recognition of gained qualification; easy admission; quality teaching and learning environment; employment during study.
Chen (2008)	Canada	(a) China, Hong Kong, Japan, Korea, Taiwan (b) Various	Safe place; studious environment; multicultural environment; quality of life; future employment prospects; degree valued in home country; ease of visa process; quality and reputation of institution/programme.
Bodycott (2009)	Various	China	Employment after study; social and academic support; programme availability; accommodation on site; relatives/friends in area; English-speaking environment.
Abubakar, Shanka and Muuka (2010)	Australia	Various	Quality of course; quality of lecturers; cost of course; safety; library facilities; range of courses; opportunities to mix with other students; recommendations; cost of living; proximity to home.
Padlee, Kamaruddin, and Baharun (2010)	Malaysia	Various	Quality learning environment; use of English language; quality of staff; university reputation; influences from family, friends and media; funding; costs; facilities at institution.
Wilkins and Huisman (2011a)	United Kingdom	Various	Improve employment prospects; experience different culture; improve English; quality of education; reputation of university; quality and content of programme; rankings.
Wilkins, Balakrishnan and Huisman (2012)	UAE	Various (mostly UAE expatriates)	Avoid the time/hassle of taking flights; same programme as in Western country; can study part-time and continue in job; better social life in the UAE; can continue living with family; safe country; pleasant country; more familiar/comfortable with culture and lifestyle

In the UK, international students are defined as those students whose normal place of residence is outside the UK, that is to say, they are not UK domiciled (Lasanowski, 2009). At Murdoch University Dubai, about 90% of students consider their domicile to be outside the UAE (Wilkins 2011, p. 78). Very few of the expatriate students currently completing their secondary education in the UAE were born in the UAE, and with all expatriates considered as temporary residents in the country, it is likely that many students and their families do not consider the UAE to be their normal (long-term) place of residence. It is reasonable therefore to consider these expatriate students in the UAE as international students.

Furthermore, some official definitions of 'international student' used by national governments do not mention mobility across national borders. In Japan, for example, an international student is simply one who resides in Japan with a college student visa (Lasanowski, 2009). Residency in the UAE is never permanent for non-UAE nationals, and even property owners have to apply for a new residency visa every three years. Generally, males over the age of 18 must be either in full-time education or full-time employment to gain (and maintain) residency in the UAE (Foreign and Commonwealth Office, 2010), which explains why many male students hold student visas.

Historically, expatriates residing in the UAE could not study at a public/federal HEI. Until branch campuses (and other private HEIs) opened in the UAE, all expatriate students wanting to undertake higher education had to leave the country to do so. Most of these students went to Western (such as the US or UK) or MENA (Middle East and North Africa) countries. If there were no branch campuses (and private HEIs) in the UAE now, then the vast majority of expatriate students would still have to leave the UAE. It was only in 2009 that Zayed University, a public/federal HEI, began admitting non-UAE national students (AMEinfo, 2010) and UAE University now also accepts international students, although both institutions still enrol very few international students and UAE University in particular does not appear to be actively seeking to enrol international students.

2.6.2 The impacts of expatriate children's lifestyles and experiences on their higher education choices

Over the last three decades, increasing attention has been given by researchers to the outcomes of a globally mobile childhood (Grimshaw and Sears 2008). The circumstances and contexts in which expatriate children live, and the experiences they have had, impact on their higher education choices and decision-making, and also how they perceive and evaluate institutions.

There are two widely recognised concepts associated with expatriate children: 'global nomads' and 'third culture kids'. Schaetti (1998, p. 13) defines a global nomad as, "a person of any age or nationality who has lived a significant part of his or her developmental years in one or more countries outside his or her passport country because of a parent's occupation". The term 'third culture kid' was created by Useem et al. (1963), who studied the experiences of American families living and working in India. They found that young people often developed a third culture, formed from the blending of elements of the cultures of the first 'home' country and the second 'host' country. A third culture kid who, having spent a significant part of their developmental years in a culture other than their parents' culture, develops a sense of relationship to all of the cultures while not having full ownership in any (Pollock and Van Reken 2001).

Children in internationally mobile families can have exciting and enriching lives, but it is now widely accepted that people who have experienced a mobile expatriate lifestyle during their childhood often experience confusion over their identities later in life (Fail et al. 2004; Grimshaw and Sears 2008). Expatriate children face numerous challenges, including adapting to countries that may be at a different stage of economic development from that of their passport or 'home' country, assimilation of new cultural behaviours, the need to learn and cope with a new host country language and the frequent loss of friends (Grimshaw and Sears, 2008).

Pollock and Van Reken (2001) claim that many third culture kids find the continual cycle of losing friends more difficult to cope with than frequent relocation. This is because their sense of belonging is more relationship-based rather than geography-based, as they form bonds with other third culture kids who are experiencing the same sets of challenges they face (Pollock and Van Reken 2001). However, McCluskey (1994) found that internationally mobile children often deliberately form only casual, superficial friendships in order to avoid the bereavement process that accompanies loss. Adopting such a strategy might make it easier for students to return to their home countries alone for the purpose of enrolling in higher education.

Living an internationally mobile lifestyle is commonly associated with young people not feeling at home in their 'home' culture (Useem and Downie 1976). However, Pollock and Van Reken (2001) claim that some third culture kids can feel at home everywhere while others feel at home nowhere. They found that when in a foreign country, third culture kids often identify themselves as coming from their passport country, but when they are in their passport country, they identify themselves as coming from overseas. Many young people experience

reverse culture shock when they return to their passport or 'home' country (Fail et al. 2004). Students who are aware of, or fear, reverse culture shock might struggle to identify with universities in their passport country and they might assess more favourably institutions located closer to where they have undertaken their secondary education and where they are currently living with their parents.

A study by Downie (1976) of American expatriate children who returned to the United States for higher education found that they generally demonstrated an ability to cope and adapt to their 'new' environment. However, other studies have found that some global nomads who return to their home countries are unable to fully re-integrate into their home culture and they seek relationships with others who have also experienced an internationally mobile lifestyle (Sears 1998; Gregory 2002).

Those who have lived an internationally mobile lifestyle during their school years often view themselves as flexible, tolerant and cosmopolitan people who feel comfortable and who can cope in a variety of environments (Downie 1976). Iwama (1990) found that Japanese third culture kids were more self-confident, had more flexible minds, were more active and curious, and had a higher bilingual ability than students who had only lived in Japan. Expatriate children live uncertain lives, often not knowing where they will be living from year to year, and so many become future oriented, typically forming objectives and plans for their future adult lives (Fail et al. 2004). Many set ambitious career goals, which require them to study at the most elite universities globally. For such students, the images of local branch campuses might seem unattractive.

It is quite possible that parents have feelings and motivations that they do not openly share with their children. Brown and Orthner (1990) found that in deciding whether or not to accept an overseas posting, parents are often swayed by the career and financial implications even though they fear that an expatriate lifestyle may cause their children problems with emotional security, identity and sense of belonging. McLachlan (2007) noted that parental guilt is a common theme in the literature about relocation overseas. Parents who are concerned about own-culture deprivation, clouding of their children's cultural identity and potential reverse culture shock upon their children's eventual return to their passport country might encourage their children to apply for higher education in their passport country. In contrast, other parents might feel that their children are not yet ready at age 18 to live independently in a country different from where they are living.

Internationally mobile families uproot themselves from extended families, old friends, and other key support people from their communities, and what usually remains is a smaller family unit consisting of only parents and children. The result is that family members often depend more on each other to meet their physical, emotional, social and spiritual needs (McLachlan 2007). Expatriate families are often stronger and more cohesive, offering considerable support and comfort to children, but this can also make it harder for children to cope with leaving the family home to undertake higher education in another country. Siblings in expatriate families are often closer, and they typically offer more help and support to one another than siblings in families that have never lived abroad. Students who want to continue living with their families are more likely to perceive international branch campuses as an attractive option.

In UAE, Middle Eastern and Islamic cultures, parents are generally very protective towards their daughters. Influenced by their upbringing and family expectations that they will continue living at home while they study for an undergraduate degree, it is expected that female global nomad/third culture kids from Middle Eastern/South Asian families will find the images of international branch campuses attractive.

This section has explained how the lifestyles and experiences of expatriate children - the population of interest in this study - might influence how they construct and evaluate the images of international branch campuses.



The chapter recognised that the growth of transnational education has been one of the key trends in the internationalisation of higher education and that several governments globally have invited or encouraged foreign HEIs to establish branch campuses in their countries. Although there has been substantial research published on numerous aspects of higher internationalisation, relatively little research has been conducted on international branch campuses. Nevertheless, it is clear that international branch campuses operate in a competitive marketplace and competition is particularly fierce in some of the new higher education hubs, such as Dubai.

The process by which students choose HEIs has been widely researched since the 1980s. Some researchers have developed conceptual models of student choice while others have conducted empirical studies. Although empirical research on international student destination choice began in the 1990s, it is only in the last decade that studies have considered students and institutions in different locations and regions globally and different types of students and

institutions; it has been even more recently that institutional mobility has been researched in addition to student mobility. Furthermore, this chapter highlights expatriate children as a (potentially) particular type of international student and identifies some of their characteristics that might have a particular influence on higher education choice.

This chapter discussed the factors considered by international students in determining their country and institutional choices. A notable finding is that institutions can no longer rely on push factors to drive students to their home campuses and that many students now prefer to study in their home country/continent. Most of the pull factors that apply to home campuses apply equally to international branch campuses, which implies that institutions should focus on these factors when determining and implementing developmental and operational strategies. Previous research suggests that institutions should focus on their product offerings and pricing.

Many international branch campuses operate in highly competitive marketplaces and if they do not adopt the decision-making, option evaluation and promotional tools used by business organisations, they have a far greater risk of failure, as shown by institutions that greatly underestimated costs or overestimated demand (e.g., George Mason University in Ras al Khaimah), or which set tuition fees at a level that the market considered too high (e.g., Michigan State University in Dubai). Institutional failures such as these provide a practical rationale for this research.

The marketization of higher education has led both practitioners and researchers to pay greater attention to student choice and decision-making, the concepts examined in this chapter. Empirical research findings indicate that an institution's (or country's) marketing can considerably influence students. The concepts and theory of marketing are discussed and analysed in Chapter 3, the following chapter. Although many studies on international student choice in the higher education literature have mentioned the reputation and image of institutions or the prestige of institutions, few have focused solely on institutional image as an influencer on student decision-making, nor considered student-institution identification. Institutional image and student-institution identification are however concepts that have been considered in the specialist marketing literature and this is examined and analysed in Chapter 4.

Chapter 3 Marketing, marketing communication and branding in higher education

3.1 Introduction

The theory and practice of higher education marketing developed simultaneously in the US and several other Anglophone countries from about the late 1980s. As explained in Chapter 1 (see Figure 1), corporate and brand identities, communicated to consumers through corporate and marketing communication, are antecedents of organisational image and identification. This chapter will discuss practice in higher education marketing before examining the literature. It will focus on marketing communication, corporate communication and corporate branding, as these are key marketing concepts used in the study of image and reputation.

There are a number of other marketing concepts – such as strategic marketing, marketing planning, market segmentation, market positioning and marketing mix – which might each have some impact on organisational image and identification, but these concepts are interrelated and overlap. In order to keep this thesis focused and to a reasonable length, and as these concepts are less directly connected with image formation/evaluation and customer-company identification, they are not individually discussed or examined. Thus, this chapter provides a general introduction to marketing in HEIs, before organisational image and identification – the key theoretical concepts used in the research – are examined, analysed and evaluated in the Chapter 4.

3.2 The practice of higher education marketing

Higher education is an organisational field that was slow to recognise the potential benefits of marketing. More than three decades ago Blackburn (1979, p. 183) wrote, “There is some question as to whether large segments of the admissions profession have any substantial comprehension of what marketing means or involves”. In 1988, Xavier University (US) organised a conference on the marketing of higher education, which attracted 135 participants. This conference evolved into the American Marketing Association’s Symposium on the Marketing of Higher Education. At the original conference it became clear that many of those responsible for the marketing of HEIs lacked an understanding of the field of marketing (Hayes 2007). One contributing factor is the fact that many of these marketing professionals came from industry, where the focus was on physical products, and so they did not understand the marketing of non-tangible services in general. However, Litten (1980) argues that marketing has always been a part of higher education in the US – at least since the early 1800s – and that it is only the terminology and some of the techniques that have changed. Eventually, however, it was accepted by higher education managers and marketing practitioners that higher education was not a product, but a service and that the marketing of

services required different approaches than those used to market products (Nicholls et al. 1995).

Intangibility is a major distinguishing feature of services, but applies particularly to education, where the specific nature of the product is difficult to define (Mazzarol 1998). The intangibility of education makes it difficult for HEIs to display or communicate their services to the customer, or potential customer. As a result, HEIs and those bodies promoting international education, such as the *British Council*, are often criticised for supplying insufficient detail and taking a glossy “touristy” approach to publicity materials (Mazzarol 1998).

Common with many services, but particularly education, is the fact that production (delivery) and consumption are not easily separated. Higher education requires the involvement of the customer - the student - in order for learning, qualification achievement and customer satisfaction to be achieved. It is difficult therefore for potential students to gauge the quality of different institutions, hence the rise in popularity of rankings (Wilkins and Huisman 2011c). Higher education is undertaken in groups and HEIs are socialising organisations, designed to process large groups of people in large lectures or classes. As individuals generally desire to maintain social relationships, students are often influenced in their choice of institution by the choices of their friends (Shanka et al. 2005; Bodycott 2009). Interaction between students and students and tutor can impact significantly on student learning and satisfaction, and student word-of-mouth can influence potential students.

Today, universities generally accept and embrace the concept of marketing and yet the American Council on Education (ACE), which organises training and professional development activities for higher education managers, still excludes marketing from its curriculum and conferences (Hayes 2007). However, the Council for the Advancement and Support of Education (CASE) does offer seminars and conferences on higher education marketing, as do a number of similar organisations worldwide, such as the European Association for International Education (EAIE), and since 1988 the *Journal of Marketing for Higher Education* has provided an outlet for researchers in the field of higher education marketing.

As competition among HEIs for students and resources has intensified, marketing has increasingly been accepted by college managers as a tool to deliver competitive advantage. The highly competitive nature of the higher education market globally has emphasised the need for institutions to better understand the needs of their customers (the students) and wider stakeholders (such as parents and employers) and recognise that different groups have

different needs (Nordstrom 1997). 'Knowing the territory' is crucial in international marketing (Chen 2008), as research has indicated significant differences of student choice in different countries (Mazzarol and Soutar 2002; Shanka et al. 2005).

A study by Newman (2002) found that the main marketing activities undertaken in US HEIs were advertising, marketing planning, target marketing, market research, market segmentation, self-audits and market positioning. Research by Hayes (2007) found a strong belief among marketing professionals in US HEIs that the marketing and strategic planning functions of institutions would increasingly become integrated as they share similar objectives and rely on similar data and information. The implication of this, should the prediction materialise, is that the role and status of marketing in HEIs will become further elevated, and as marketing professionals begin to seek more sophisticated and up-to-date data and information this research will offer an insight into aspects of student perceptions and decision-making that have to date been little explored.

3.3 Higher education marketing in the literature

The earliest literature on education marketing was based on marketing models used in the business sector, mainly in the US, but also in countries such as Australia, Canada and the UK (Oplatka and Hemsley-Brown 2004). Several marketing 'experts' published books on educational marketing targeted at institutions, i.e., at practitioners rather than academic researchers, e.g., Kotler and Fox (1985), Davies and Scribbens (1985), Keen and Warner (1989), Gibbs and Knapp (2001). More recently, Maringe and Gibbs (2009) wrote a text that attempted to cross the practitioner-academic divide by covering both theory and practice in higher education marketing. The definitions and concepts used in the higher education marketing literature are those provided by well-established authors in the broader marketing field.

Kotler and Fox (1985, p. 6) define education marketing as, "The analysis, planning, implementation and control of carefully formulated programmes designed to bring about voluntary exchanges with a target market to achieve organisational objectives." Later definitions of education marketing drew more on the concepts from the services marketing field, but this trend started in the 1980s. For example, Lovelock (1983) identified five criteria to describe and examine education services: the 'people based' nature of the service 'transaction' (e.g., co-creation/production); the (long-term) relationship between the education provider and the student; the level of customization (e.g., small tutorials versus mass lectures); the nature of demand relative to supply (e.g., availability of resources – staff and physical

resources – and under/over capacity); and the method of service delivery (e.g., traditional on campus, distance/web-based, offshore).

During the 1990s, much of the higher education marketing literature focused on the promotion element of the marketing mix and on marketing communications (e.g., Mortimer 1997; Gatfield et al. 1999; Hesketh and Knight 1999). Although marketing researchers began to consider students as consumers, educational researchers and practitioners were typically – and in many cases, still are – opposed to the notion of students as customers. For example, Barrett (1996, p. 70) wrote, “It is both regrettable and ominous that the marketing focus, explicitly borrowed from business, should be accepted and even welcomed.” In contrast, Kotler (2003) argues that the key to successful marketing lies in identifying the core business of the organisation and then aligning the development process in a way that reflects the needs of customers.

In countries all around the world, marketization policies and market-type mechanisms have been introduced in higher education systems (Jongbloed 2003; Maringe and Gibbs 2009). The literature indicates that the higher education market is now well established as a global phenomenon, particularly among Anglophone nations (Binsardi and Ekwulugo 2003; Hemsley-Brown and Oplatka 2006). In response to the processes of globalisation, deregulation and marketization, and in order to gain a competitive advantage, HEIs have increasingly adopted the marketing theories and concepts that have already been proven effective in the business world (Hemsley-Brown and Oplatka 2006). In addition to the issue of increasing competition, HEIs have also had to deal with funding issues (Brookes 2003) and pressures from a diverse range of stakeholders, demanding or expecting, for example, widening participation (Farr 2003).

Baldwin and James (2000) argue that students will increasingly become informed consumers making rational choices, and much of the literature on marketing for higher education examines student choice and decision-making, including specifically the decision-making of international students (Mazzarol and Soutar 2002; Binsardi and Ekwulugo 2003; Pimpa 2005; Maringe and Carter 2007; Chen 2008; Abubakar et al. 2010; Wilkins and Huisman 2011a). Hemsley-Brown and Oplatka (2006) argue that although research on higher education marketing draws its conceptualisations and empirical frameworks from the more established services marketing field, the higher education marketing literature remains largely incoherent, lacking theoretical models that reflect upon the particular context of higher education. This is not to say that some higher education researchers have not written theoretical papers or

developed conceptual models (examples being Nicholls et al. 1995; Mazzarol and Soutar 1999; Czarniawska and Genell 2002; Cubillo et al. 2006; Vrontis et al. 2007).

Empirical research conducted in an international context and/or relating to international students has addressed a wide range of topics, including institutional and country image (George 2000; Oplatka 2002), gaining competitive advantage (Mazzarol and Soutar 1999; Czarniawska and Genell 2002), market segmentation and positioning (Mazzarol and Hosie 1996; Czarniawska and Genell 2002), and promotion and marketing communications (Nicholls et al. 1995; George 2000).

More recently, new approaches to marketing communication have been proposed (which are discussed in the following section) and the importance of branding in higher education has become recognised among practitioners and scholars, and increasingly used by HEIs to establish and strengthen their reputations; to attract students, staff, resources and funding; and to portray a positive organisational image to wider stakeholders such as employers, parents, accreditation bodies and quality assurance agencies.

3.4 Marketing communications

The earliest research on marketing communication in higher education focused on analysis of printed media such as prospectuses and student guides (Mortimer 1997; Gatfield et al. 1999; Hesketh and Knight 1999). These studies considered how the information provided in printed media impacted upon student choice. A common conclusion was that institutions gave prospective students insufficient information to form a decision. Later research considered other methods used by HEIs to communicate with prospective students. For example, Klassen (2002) analysed the websites of 120 US HEIs and, recognising the concept of relationship management, concluded that some universities failed to provide sufficient interactive and relationship building capabilities on their websites. Gray et al. (2003) adopted a more holistic approach by investigating the different media used by students in Hong Kong, Malaysia and Singapore to gain information about foreign HEIs. They found that the Internet and printed media were perceived by students in all three countries to be the most important sources of information although individual students did have individual preferences.

Marketing communication has a customer focus – it consists primarily of those forms of communication that support sales. In the higher education field, marketing communication consists mostly of advertising and public relations. Public relations involves the creation of publicity, which seeks to stimulate demand for the organisation's product or service by giving significant and positive news/stories to the media who then use such news/stories to portray

the organisation in a favourable way without the organisation having to directly pay for the publicity (Kotler 1988).

Much debate has taken place regarding the integration of marketing communications and public relations (Balmer and Greyser 2003, p. 141). Kotler and Mindak (1978) focus on their differences; Broom et al. (1991) and Grunig and Grunig (1998) emphasise their similarities; while Schultz et al. (1993) and Nowak and Phelps (1994) argue for their integration. Although more researchers are now supporting the arguments for marketing communications/public relations integration (Balmer and Greyser 2003), implementation can often be difficult in practice, with managers disagreeing about whether it should be achieved by function or process, and varied organisational and environmental circumstances require different responses.

3.4.1 Corporate communications

Van Riel (1995) argues that marketing communication is just one element of corporate communication – the others being management communication (having an employee focus) and organisational communication (having a stakeholder focus). Corporate communication, then, relates to the totality of controlled messages from the organisation directed towards customers, employees and stakeholders (Balmer 2009, p. 559). Ind (1992) argues that corporate communication attempts to translate corporate identity into corporate image, in other words, to provide a means by which the internal vision of the organisation can be communicated to all stakeholders so that they hold positive images of the organisation (Maringe and Gibbs 2009).

According to Balmer (2009), the absence of a well-defined and managed corporate communications strategy that reveals an organisation's purpose, philosophy and intentions to customers and stakeholders can result in communications, and resultant images, that are diffuse, confusing and contradictory. In recent years, corporate communication has evolved into a field of study taught in universities and practiced in business. Van Riel (2003) argues that most universities now pay attention to corporate communication. It may, in practice, go by another name, but it likely influences organisational image formation amongst customers, potential customers and other stakeholders. Consumers become aware of and recognise different organisations through branding, a process which can also help ensure that consumers' images of the organisation more closely match the organisational identity desired by management. Corporate communication – incorporating marketing communication – is a major antecedent of brand formation and brand sustainability.

3.5 Branding in the literature

3.5.1 *From product branding to service and corporate branding*

Over forty years ago, Kollat et al. (1970) claimed that the many definitions of 'brand' made it difficult and hazardous to compare, synthesise and accumulate findings. Believing that authors had still failed to fully develop the brand construct and its boundaries, de Chernatony and Riley (1998) wrote a paper that aimed to lay the foundations for establishing a theory of the brand. In examining the existing literature, de Chernatony and Riley (1998) identified twelve themes that summarised the concept of brand: legal instrument; logos; companies as brands; consumer recognition to aid purchase decisions; brands as risk reducers; identity systems that incorporate organisational culture, personality and projection; images in consumers' minds; value systems; brand personalities; relationships between brands and consumers; brands as an adding value mechanism; and brand as an evolving entity. De Chernatony and Riley (1998) proposed a concept of the brand as a multidimensional construct that matches a firm's functional and emotional values with the performance and psychosocial needs of consumers. Aaker (1991, p. 7) summarised the concept of brand as, "a distinguishing name and/or symbol... intended to identify goods or services... and to differentiate those goods or services from competitors."

Firms position their brands through the elements of the marketing mix, which work together to convey a pre-determined brand identity and personality. Firms may choose to stress particular symbolic, experiential, social and emotional values, as an important goal of branding is to create strong emotional ties with consumers, thereby satisfying functional as well as symbolic needs (Park et al. 1986). Consumers will each form their own image of a brand. A brand is something that exists more in the minds of consumers than in the product or the organisation itself (Aaker 1997). By monitoring consumers' perceptions of a brand, firms can change or modify their strategies to close any gaps existing between the images held by consumers and the desired brand identities of managements.

The branding literature has always been heavily biased towards products (Turley and Moore 1995). Some researchers believe that services possess a set of characteristics which sets them apart from goods:

- Intangibility – services are performed and do not take a physical form.
- Inseparability – the 'production' and consumption of a service is simultaneous.
- Heterogeneity – the quality of service performance is difficult to standardise.
- Perishability – services cannot be stored for usage at a later time.

(Zeithaml et al. 1985)

However, Vargo and Lusch (2004) argue that these characteristics do not distinguish services from goods, that they only have meaning from a manufacturing perspective and that they imply inappropriate normative strategies. They suggest that advances made by service scholars can provide a foundation for a more service-dominant view of all exchange, from which more appropriate normative strategies can be developed for all of marketing.

The differences between services and products warrant different approaches to marketing (Shostack 1977), and therefore also to branding. Although there is an extensive literature on services marketing, only a relatively small proportion of it addresses the issue of branding services (Moorthi 2002). Some researchers have argued that branding is more critical for services than for goods because the intangible nature of services makes it difficult for consumers to evaluate their quality (Krishnan and Hartline 2001). Berry (2000) suggested that branding a service can help consumers by assuring them of a uniform level of service quality. However, a study by Krishnan and Hartline (2001) did not support the contention that brand equity is more important for services than for goods. For further discussion and analysis on the concept of brand equity, see the following section.

Some researchers have suggested that the model of branding fast moving consumer goods (FMCG) can also be applied to services (Levy 1996; de Chernatony and McDonald 2003), but others have claimed that the FMCG approach must be adjusted for the services sector to address the intangible nature of services (McDonald et al. 2001). The execution of service brands requires greater emphasis on internal service than do product brands, as services are delivered by people. Staff must be recruited, trained and monitored to ensure that they deliver the 'brand promise'. Brooks (1996) observed, however, that both product and service brands followed a broadly common development process: (1) setting of clear brand objectives; (2) definition of clear positioning; and (3) selection of appropriate values.

While FMCG brands generally focus on products, service companies must decide whether to build their brands around specific products or on their corporate identities (Olins 1995). Corporate identity refers to, "a company's ethos, aims and values, which presents a sense of individuality that can help to differentiate the organisation within its competitive environment" (Balmer 1998, p. 985). Most HEIs base their brands on their corporate identities, as they offer a wide range of services - e.g., undergraduate programmes, postgraduate programmes, research and commercial services - although product branding is also sometimes used, for example by business schools with a strong Master of Business Administration (MBA). Moorthi (2002) proposed a conceptualisation of service branding that drew upon the 7Ps of services marketing (product, price, place, promotion, physical evidence, process and people),

David Aaker's (1996) brand identity framework (brand as: product, organisation, person and symbol), and the economic classification of goods (search, experience and credence goods, e.g., consumer durable goods, restaurants, car servicing).

Since the late 1990s, the concept of corporate brand has risen to prominence in both academic and practitioner fields as the potential benefits of developing brands at the organisational level have become more widely recognised and accepted (Knox and Bickerton 2003). Curtis et al. (2009, p. 405) describe corporate branding as, "a process of creating, nurturing and sustaining a mutually beneficial relationship between a company, its staff and external stakeholder". Potential advantages of corporate branding include increasing of a firm's visibility, recognition and reputation (Hatch and Schultz 2003). Corporate branding is different from product branding in that rather than focusing on individual products or services corporate branding is conducted at the level of the organisation. The aim of corporate branding is to manage the firm's interactions with multiple stakeholder audiences, and not just customers as is the case with product branding. In a higher education context for example, institutions manage their corporate brands to benefit from favourable images held by employers, parents, funding agencies, the media and governments, among others.

Hatch and Schultz (2003, p. 1044) identify some of the key differences between product and corporate branding: corporate branding focuses on the organisation rather than the product; it is managed by senior rather than middle management; it seeks to influence multiple stakeholders, not solely customers; it uses total corporate communication, not just marketing communications; it operates with a long rather than a short time horizon; and it is of strategic importance to the company rather than operating at the functional level.

3.5.2 Brand equity

Brand equity might be defined as, "added value endowed by the brand to the product" (Farquhar 1989, p. 47). Aaker (1991) identified four major consumer-related aspects of brand equity:

- Brand loyalty
- Name awareness
- Perceived quality
- Other brand associations

He suggested that these four dimensions could be used to form measures of consumer-based brand equity. A study in the financial services market by Mackay (2001) found that the strongest measures of brand equity (in terms of their correlation with market share) were

brand recall and familiarity. As consumers are more likely to be familiar with brands that they actually use, this measure might be less useful in a higher education context when considering potential customers (students).

All products, whether goods or services possess search, experience and credence attributes:

- Search attributes – product characteristics that consumers can determine and evaluate prior to purchase, e.g., level of tuition fees, subject modules in a course.
- Experience attributes – product characteristics that can be discerned and evaluated only after purchase or consumption, e.g., perceived knowledge of lecturers, perceived quality of teaching, and sufficiency of library and information technology resources.
- Credence attributes – product characteristics that consumers cannot determine or evaluate even after purchase or consumption, e.g., fair and reliable assessment, overall quality of programme compared to similar programmes offered by competitors.

(Krishnan and Hartline 2001, p. 330)

Higher education probably has more experience attributes than search or credence attributes. Bharadwaj et al. (1993) argued that brand equity is more important for services that are dominated by experience and credence attributes. When buying a product with fewer search attributes, consumers may feel that a strong brand reduces the risk that they purchase a poor or unsatisfactory product.

Consumers rely heavily on extrinsic cues, such as brand names, in their evaluation of products prior to purchase. Krishnan and Hartline (2001) found that a sample of undergraduate students believed that their ability to judge the performance of educational institutions before purchase was stronger than their ability to judge the performance of 24 other services, which included banks, restaurants, cinemas, hairdressers and taxi firms. It should be noted that this finding resulted from the study's pre-test, which involved a sample of only 65 respondents, but students in the US have considerable information available to them - including government statistics and media rankings/surveys - which might contribute to students perceiving they have sufficient knowledge to construct images of institutions and make judgements about institutional performance/quality. Also, US students might obtain information from friends and relatives, who have first-hand experience of different institutions.

In the UAE, the government makes available very little data on branch campuses, there are no media rankings, and as the vast majority of institutions are newly established (within the

last five years) they have not had sufficient time to establish favourable reputations. It is interesting, therefore, to discover the extent to which potential students perceive that they can construct distinct images of different institutions and make comparative judgements about their quality/performance.

3.6 Branding and brand management in higher education

Brown and Mazzarol (2009) argue that branding and brand image are just as important for HEIs as for any other type of service provider. National and international competition within higher education has been one of the key triggers that has increased interest in branding within the sector (Stensaker 2007). Empirical studies on higher education branding have examined communication of university brands (Bélanger et al. 2002; Bulotaite 2003; Opoku et al. 2009; Chapleo et al. 2011), international branding (Gray et al. 2003) and branding policies and brand management, including brand architecture (Baker and Balmer 1997; Balmer et al. 2010; Chapleo 2004; Hemsley-Brown and Goonawardana 2007; Wæraas and Solbakk 2009). However, Hemsley-Brown and Oplatka (2006) claim that research on higher education branding is still very much at a pioneer stage.

Branding in higher education helps students (and their parents) to identify the particular services offered and encourages them to make a purchase decision (Harvey 1996). Through branding, an institution can differentiate itself, avoiding competition, and increasing the sense of belonging among its students (Frølich and Stensaker 2010). If students can be enticed to become passionate about a brand, and if they want to be actively associated with it, they are more likely to enter into a long-term relationship with that institution (de Chernatony and McDonald 2003). The award of a degree offers a life-long membership to a university and provides a student with a sense of identification with the corporate brand, which can be viewed as a means of self-definition (Balmer and Liao 2007).

Corporate brand management plays a critical role in consumers' formation of positive attitudes towards an institution. The management of the corporate brand, which should consist of periodic audits, is a key task of an institution's marketing function (Bosch et al. 2006). Curtis et al. (2009) observe that there is evidence in the literature suggesting that HEIs struggle to formulate and implement their corporate branding strategies. Schultz et al. (2005) suggest that this might be due to its paradoxical complexity, the newness of the field and its cross-disciplinary nature. Wæraas and Solbakk (2009) wrote that the university may be too complex to be encapsulated by one brand or identity definition.

It is the responsibility of top management for initiating, developing and maintaining the corporate branding process, but all functions in the organisation - including the academic staff, human resources, marketing and communications - must also contribute to the process. Employees play a key role in transmitting an institution's brand values as they can communicate the corporate brand to external audiences. To some extent, branding and positioning go hand-in-hand.

Positioning of HEIs typically takes into account factors such as faculty research productivity, student entry qualifications, admissions selectivity, post-graduation employment rates and graduate starting salaries, but it is also influenced by qualitative factors such as employer and media perceptions. A primary aim of branding and positioning is to become distinctive and unique. Distinctive institutions might gain a competitive advantage by 'standing out from the crowd' and research has shown that despite rapid and significant changes in their environments universities are often able to maintain their distinctiveness in the long term (Huisman et al. 2002).

The strength of a student's identification with an institution's brand is determined by the student's awareness, knowledge and experience of that brand. It may be appropriate for institutions to manage their brand differently in different cultures; in most Western countries, branding is associated with marketing activity that is designed to achieve sales (enrolments in the case of universities) while in Norway, for example, there is a general belief that branding should focus on developing and maintaining general awareness about the institution (Frølich and Stensaker 2010).

Institutional management must ensure that the student's brand experience lives up to the brand promise (Stensaker 2007). The brand promise is shaped by functional values (such as campus location, quality of learning resources and level of tuition fees) and emotional values (such as personal relationships – staff/student and student/student – and quality of life during study). Some emotional values are clearly outside the control of institutions, making the brand management task difficult to operationalize.

Only a few universities currently possess a strong brand that is widely recognised worldwide, such as Harvard, Massachusetts Institute of Technology, Columbia, Oxford and Cambridge. These institutions actively engage in promoting their reputations as brand names (Lang 2005) and these brands provide clear positioning in consumers' minds (Lowrie 2007). Institutions such as Imperial College, the London School of Economics and University College London (UCL) clearly aim to become global players in the international higher education

market. UCL, for example, uses the slogan 'London's global university' on its website and in marketing communications, and New York University (which in 2010 established a branch campus in Abu Dhabi) would like its stylized torch logo to become as widely recognised internationally as McDonalds' golden arches logo.

It is realistic however for only a very small proportion of universities globally to aim to be 'world-class' or 'internationally recognised'. In the UK, HEIs often focus on their core competencies, strengths and distinguishing features in order to establish a differentiated brand. Buckingham, which offers teaching in small groups, focuses on teaching excellence, student satisfaction and low graduate unemployment; Loughborough, with its facilities, course provision and student achievement in sports, attracts students interested in sport; while Bradford, Greenwich and Salford aim to be all-inclusive, welcoming and catering for students from working class and disadvantaged backgrounds (McCall 2011).

Although a primary objective of branding is to create a unique and distinguishable image, institutions have a tendency to imitate those that they perceive as successful, which results in institutions becoming more similar rather than more different, and the focus on what competitors are doing might lead some institutions to pay insufficient attention to what students and other stakeholders consider important (Stensaker 2007).

It is not yet known what sort of brand image a UK, US or Australian university needs in order to be successful in overseas markets as a transnational operator. Early indicators suggest that institutions which already possess leading brands in their national home markets – assessed by students overseas by looking at rankings – have a competitive advantage. As rankings are strongly influenced by institutions' research performance (Wilkins and Huisman 2011c), this means that the brands of HEIs are also dependent to a large extent on research performance.

In Singapore and Malaysia it can be seen that the branch campuses of institutions with reputations for high quality research – such as Monash (Australia) and Nottingham (UK) – are the institutions that have grown the fastest and which attract the highest quality applicants and staff. That said, rankings and brand prestige may have a strong impact only on the choices of high ability students or students from high income families, which explains why in some countries, such as the US, approximately two-thirds of students study in their home state (Stensaker 2007). However, in countries such as China and the UAE there is no shortage of students who are able and willing to pay high tuition fees in order to study at prestigious

Western universities, although the highest ability students and those from the highest income families usually prefer home campuses over branch campuses.



This chapter identified some of the advantages of universities achieving brand equity. A strong brand results in higher name awareness among stakeholders and more positive perceptions of institutional quality. Thus, this chapter reinforces the message that brand identity is a determinant of brand image, which itself is the result of an individual's perceptions of an institution. Some researchers have argued that branding is more critical for services/intangible products than for goods, and given that the services branding literature is not yet well-developed, it is anticipated that the output of this research will aid the brand managers of international branch campuses by providing much-needed information on students' perceptions and attitudes and on the process by which potential students form judgemental images of institutions.

This chapter revealed that marketing managers in leading universities are now aware of the need to carefully develop and manage their institution's brand, which involves implementing strategies that lead to the formation of positive organisational images among stakeholders. These strategies involve both corporate and marketing communication. Few practitioners or researchers have yet considered the role that consumer-organisation identification could play in achieving desirable behavioural intentions among potential consumers (enrolments). Chapter 4 introduces the theoretical concepts of corporate identity/image and consumer-organisation identification and then the study's conceptual framework and hypotheses are presented in Chapter 5.

Chapter 4 Theoretical approach

Building upon the concepts of branding and organisational communication discussed in Chapter 3, this chapter introduces and examines the concepts of organisational image and identification, which are the key components of the study's conceptual framework. The links between (i) identity and image, (ii) social identification and organisational identification and (iii) organisational identification and customer behaviour will be explained, to provide readers with an understanding of the constructs used in the conceptual model.

There are various viewpoints of an organisation that can be taken when considering organisational identity and image construction, as shown in Figure 2.

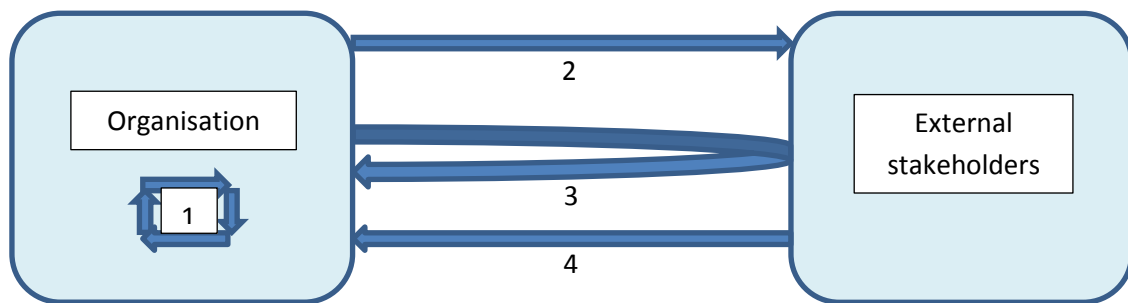


Figure 2. Viewpoints of an organisation for identity and image construction. (Brown et al. 2006, p. 100).

Viewpoint 1 involves internal actors (employees) asking, 'Who are we as an organisation?' This represents the employees' perceptions of the organisation's actual identity. Viewpoint 2 represents the organisation's desired identity, which might be reflected in the organisation's corporate and marketing communications to external stakeholders. Viewpoint 3 represents conceived identity - how the organisation perceives that external stakeholders think of the organisation - and, finally, viewpoint 4 represents the organisational images held by external stakeholders. This research directly investigates only viewpoint 4, specifically the images of international branch campuses in the UAE held by year 12/13 high school students.

4.1 Corporate identity and image: muddled use of terminology

The concepts of corporate identity and corporate image surfaced in the 1950s (Bick et al. 2003). Today, a multitude of meanings are accorded to the corporate identity concept (Balmer 2009). The concepts of identity and image are used by researchers across a variety of

disciplines, including organisational behaviour, marketing, corporate communication, psychology, sociology and strategy (Brown et al. 2006; Da Camara 2006). The widespread use of these concepts has led to muddled use of the terminology, and Balmer (2001, p. 252) argues that this has contributed to the 'fog' surrounding the corporate identity domain.

Identity and image researchers come from different disciplines but they find themselves addressing a common set of questions, such as: What do individuals know or believe about an organisation? How do individuals respond to what they know or believe about an organisation? How can an organisation shape and develop what individuals know or believe about the organisation? (Brown et al. 2006).

Olins (1978) suggests that identity relates to how an organisation presents itself to stakeholders via *visual identification*; it relates to what an organisation *is*, what it *does*, and how organisational *culture* develops and supports identity; and the way an organisation presents itself to stakeholders through its *communications*.

Similarly, Balmer (2009, p. 551) argues that corporate identity refers to an organisation's innate attributes as well as to the deployment of graphic design to convey an institution's actual or desired identity. The former perspective tends to form the basis of work done by academic researchers whereas the latter represents much of the work undertaken by practitioners.

Despite the fact that different researchers work with different definitions of corporate identity, Otubanjo and Melewar (2007, p. 420) posit that the arguments and constituents of different schools of thought, paradigms and perspectives are, in fact, interrelated and converging, and they developed two conceptual models to aid our understanding of corporate identity. Melewar and Storrie (2001) created a model that identifies the sub-constructs of corporate identity (Figure 3), which is useful for this research as it identifies the possible influences on corporate image formation.

Brown et al. (2006) also propose a framework for synthesizing existing research and theory on identity and image across different disciplines in order to develop a consistent terminology. Their framework is based around four viewpoints of an organisation, which include questions such as, "What does the organisation want others to think about the organisation?" (intended image) and "what do stakeholders actually think of the organization?" (construed image). These two questions are central to this research. This research, then, is really about corporate image.

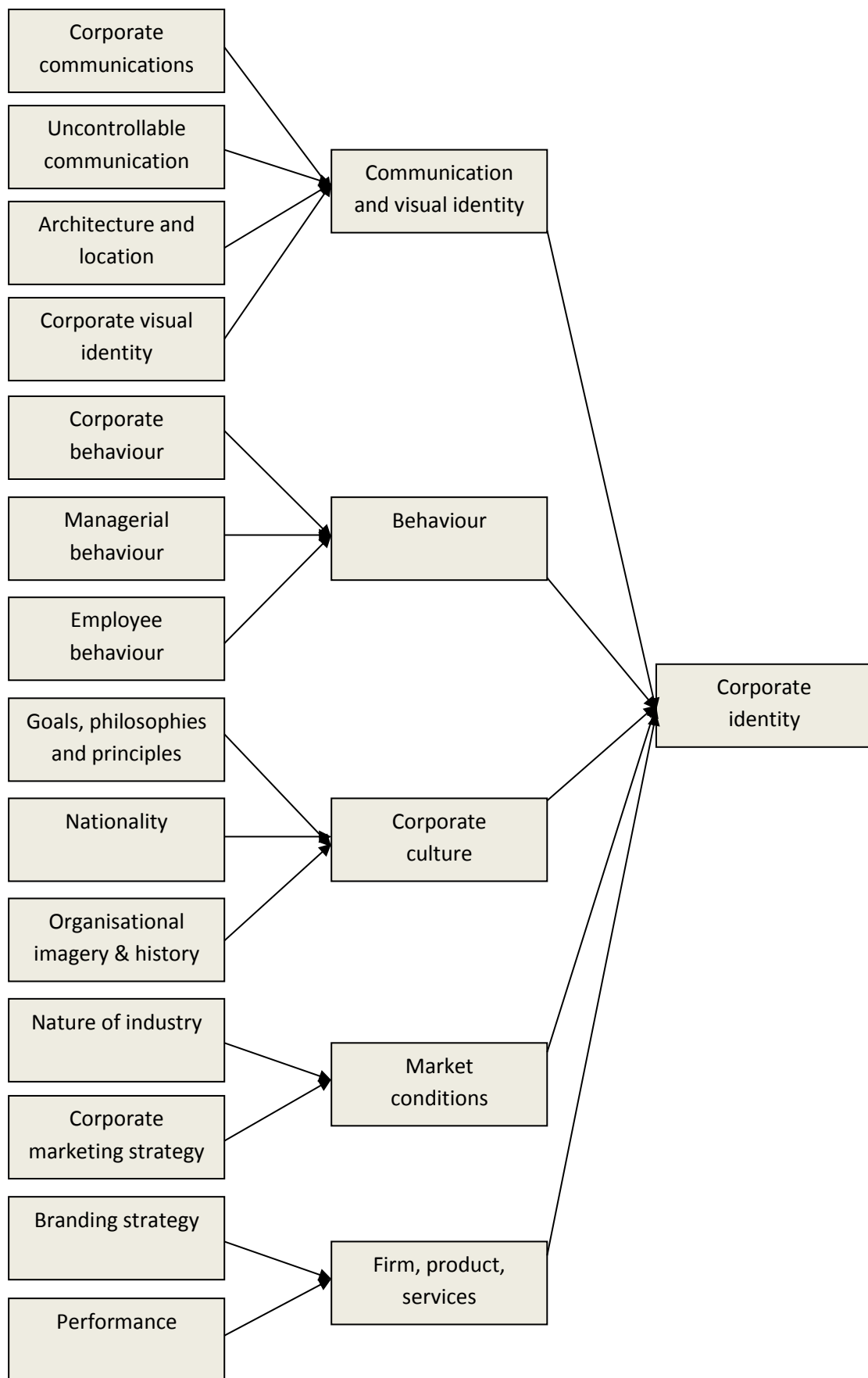


Figure 3. Corporate identity and its sub-constructs (Melewar and Storrie 2001).

4.2 Development of the corporate identity and image concepts in the literature

4.2.1 Identity – stable or fluid?

The seminal work of Albert and Whetten (1985) introduced the concept of organisational identity. They argue that the identity of an organisation is represented by those aspects of it that are central, enduring and distinctive to the stakeholder. Their approach presents corporate identity as being determined by both appearance and behaviour, i.e., combining visual representations and symbols of the organisation with the behaviour and actions of its members.

In contrast, other researchers, such as Gioia et al. (2000) and Stensaker (2004), argue that organisational identity is a fluid concept, but rather than destabilising an organisation, instability in identity is adaptive in accomplishing change. Balmer (2001, p. 280) addresses corporate identity as the 'identity wheel of change' where change is a constant feature of organisational life, and he suggests that the word 'evolving' might replace 'enduring' in Albert and Whetten's definition.

In higher education, organisational identities are often expressed as specific labels - such as being entrepreneurial, international or inclusive - and changes occur as the meanings of these labels are translated or re-interpreted over time to fit external demands and expectations (Stensaker 2004, p. 211). The identities of most international branch campuses probably change over time, given that most institutions start on a small scale and then expand, thus developing their product offerings (courses, research etc.), infrastructures and systems over time. However, Stensaker et al. (2012, p. 12) argue that in emphasising identity to explain change too much attention might be given to the cultural aspects of organisational life rather than the structural dimensions.

4.2.2 Balmer's AC²ID Test

Balmer and Soenen (1999) developed a framework called 'The Acid Test of Corporate Identity Management' to aid corporate identity managers, consultants and scholars. Their ACID test approach recommended that managers and consultants identify and analyse four types of identity: actual identity, communicated identity, ideal identity and desired identity. Ideal identity refers to the optimum positioning of the organisation in its market(s), and is typically based on rigorous research and analysis, whereas desired identity is more to do with the aims and vision of owners and senior managers, and might often be influenced heavily by the personality and ego of a university president/vice chancellor.

Balmer and Greyser (2002) revised this model, creating the AC²ID Test, by adding conceived identity as a fifth identity type. Conceived identity refers to the perceptions of the organisation held by stakeholders, which links to the concepts of corporate image and corporate reputation. The responsibility of identity managers and consultants is to identify the gaps between the different identities at six 'interfaces' (the points at which two identities can be compared) in order to identify where change is needed.

4.2.3 Image and reputation

Traditionally, organisational image has been described as how members within an organisation believe others view it (Dutton and Dukerich 1991). Brown et al. (2006, p. 100), however, distinguish between what members within the organisation believe external stakeholders think about the organisation (construed associations/image) and what the stakeholders actually think (corporate associations/reputation). Brown et al. (2006, p. 104) suggest using the word 'reputation' to refer to the actual perceptions of external stakeholders to an organisation, as previously argued by theorists such as Fombrun and van Riel (1997) and Gioia et al. (2000). Da Camara (2006, p. 13) adds that reputation should refer to the perceptions of stakeholders *over time*.

Researchers in the marketing discipline generally prefer to use the term 'image' to refer to the actual perceptions of external stakeholders to an organisation (Brown et al. 2006, p. 104), which is the definition accepted in this study, applied to potential students. Stuart (1999, p. 206) claims that corporate reputation is the result of image development over time. This implies that an organisation's reputation is created when stakeholders hold consistent images and have consistent experiences over time. Bick et al. (2003, p. 841), in contrast, distinguish image from reputation by arguing that image is the immediate impression of an organisation, whereas reputation is a stakeholder's overall assessment of the organisation's ability to meet pre-defined criteria, such as integrity. Using Stuart's (1999) conceptualisation of reputation, most of the branch campuses in the UAE have not yet had sufficient time to develop reputations locally, since the majority of institutions were established fairly recently (after 2005).

4.3 Linking identity and image

Karaosmanoglu and Melewar (2006, p. 198) define corporate image as, "the set of meanings by which an object is known and through which people describe, remember and relate to it. That is, it is the net result of the interaction of a person's beliefs, ideas, feelings and impressions about an organisation at a particular moment in time." Corporate identity and image are interrelated, not only because the impressions and perceptions (images) formed by

external stakeholders often build on communication constructed by organisations themselves (identity), but also because corporate image is a construct of the organisation itself based on its own reading of external impressions (Dutton and Carter 1998; Christensen and Askgard 2001).

In order to design a specific corporate profile, HEI managers often want to know how their institutions are perceived by external stakeholders, or rather how the signs that represent their institutions are received and transformed into corporate images. It is this process of conversion of signs into images that this research investigates. In the self-referential process that institutions undertake, managements try to make sense of what their organisation 'is' in its external environment (Christensen and Askgard 2001). This is not simply a matter of obtaining data and processing information about the environment in general, but a creative process in which the organisation seeks to understand the reception of specific organisational symbols among particular audiences (Christensen and Askgard 2001). The outcome of this process is what Balmer and Greyser (2002) term conceived identity.

Da Camara (2006, p. 12) summarises the key differences between the identity and image constructs: corporate identity is what the organisation 'is', while image is what the organisation is perceived to be; and whereas corporate identity resides in the organisation, corporate image resides in the heads of external stakeholders.

4.4 Social identity theory

Social identity theory was developed by Henri Tajfel and colleagues to understand the psychological basis of intergroup discrimination (Tajfel 1978; Tajfel and Turner 1986). The theory attempts to identify the minimal conditions that would lead members of one group to discriminate in favour of the in-group to which they belonged and against another out-group. Tajfel (1978, p. 63) defines social identity as, "that part of an individual's self-concept which derives from his/her knowledge of his/her membership in a social group(s) together with the value and emotional significance attached to that membership". Social identification, therefore, is the perception of belongingness and sense of oneness with a group.

Social identity theory posits that individuals define themselves by being members of social groups and categorisations, examples being gender, nationality, religion and socio-economic classification (Karaosmanoglu and Melewar 2006, p. 203). Classification enables individuals to order the social environment and locate themselves and others in it (Kim, Chang, and Ko 2010). Individuals define themselves relative to the individuals in other categories, so social identification is largely relational and comparative. Identification, therefore, is likely to be

associated with the salience of both in and out-groups (Allen, Wilder, and Atkinson 1983), e.g., we are high achievers academically (in-group), they are not higher achievers (out-group); we are sporty people (in-group), they do not like sports (out-group). Awareness of an out-group emphasises the existence of a boundary, which leads to greater homogeneity among the in-group members (Ashforth and Mael 1989).

When the University of Pune, a reputed institution based in India, established its branch campus in the UAE emirate of Ras al Khaimah in 2009 it targeted Indian nationals already living in the UAE. As Europeans and North Americans have historically rarely gone to India for higher education, expatriates of these nationalities in the UAE probably perceived the University of Pune (which ceased admissions in 2011 due to insufficient enrolments) as an Indian university for Indian students. One important determinant of identification is similarity between the individual and the group, because identification is based on the categorisation of the self as similar to others within the category (Turner et al. 1987).

Organisational identification is a specific form of social identification that occurs when an individual perceives a sense of belonging and oneness with an organisation, its activities and members (Ashforth and Mael 1989). Dutton et al. (1994) claim that the more an individual identifies with an organisation, the more likely he/she is to take the organisation's perspective and act in the organisation's best interests. Furthermore, Dutton et al. (1994, p. 244) argue that the greater the attractiveness of the perceived identity of an organisation, the stronger a person's identification with it will be. Ahearne et al. (2005, p. 575) explain that in their quest for social identity enhancement and to fulfil self-definitional needs such as belongingness, individuals can turn to organisations as customers.

4.5 Consumer-organisation identification

The concept of consumer-organisation identification was proposed by Bhattacharya and Sen (2003) who argue, like Pratt (1998) and Scott and Lane (2000), that identification with organisations can occur in the absence of formal membership and even without any previous interaction between the individual and the organisation. Ashforth and Mael (1989) claim that organisational identification occurs if individuals believe that an organisation's distinctive and salient characteristics are self-referential, self-defining and enriching to their own social identity, in which case they are more likely to support the organisation. Previous empirical research has examined organisational identification among employees (e.g., Dutton, Dukerich, and Harquail 1994; Mael and Ashforth 1995; Reade 2001; Edwards and Peccei 2007), customers, including students at universities (e.g., Mael and Ashforth 1992; Ahearne,

Bhattacharya, and Gruen 2005; Einwiller et al. 2006; Hong and Yang 2009; Kim, Chang, and Ko 2010), members of non-profit organisations, such as museums (e.g., Bhattacharya, Rao, and Glynn 1995) and multiple stakeholders (e.g., Schuh, Egold, and van Dick 2012).

Van Dick (2001) found that employees who identify with their organisation sacrifice more effort and time, and they stay longer with the organisation. A study by Mael and Ashforth (1995) concluded that individuals identifying with their organisation enjoyed more job satisfaction and work motivation, superior work performance and longer service. In another study that examined students' identification with their university, Mael and Ashforth (1992) found that alumni who identified more strongly with their university donated more financially and participated more frequently in the recruitment of new students.

Most organisations comprise of multiple social categories, including work units, professional groups and departmental groups (Grice et al. 2002). These groups provide the basis for many nested identities within an organisation, with each of these identities being a potentially salient source for shaping an individual's attitudes and behaviour (Kim et al. 2010). Universities provide students with multiple group memberships; for example, a student might simultaneously be a member of the organisation as a whole, a member of a faculty and department, a member of a specific programme, a member of the student union, a member of the college football team and a member of various informal groups, such as friendship groups with other students. Each of these group memberships can influence the strength of overall student-institution identification, and possibly also the organisational identification of potential students.

Research on consumer-organisation identification has only begun to emerge more recently (e.g., Ahearne et al. 2005; Brown et al. 2005; Einwiller et al. 2006; Kim et al. 2010). Bhattacharya and Sen (2003) suggested that individuals do not necessarily have to interact or even feel strong interpersonal connection to see themselves as members of a group, and, as a result, individuals can search for organisations for identification purposes even when they are non-members of these organisations. Therefore, it is possible for organisations to, "represent and offer attractive, meaningful social identities to consumers that help them satisfy important self-definitional needs" (Bhattacharya and Sen 2003, p. 77). Bhattacharya and Sen (2003) propose that consumers' identification with an organisation can lead to a strong consumer-organisation relationship (consumer-organisation identification), which can help the consumer to satisfy one or more important self-definitional needs as well as offering benefits to the organisation, such as loyalty, promotion of the organisation, customer recruitment and resilience to negative information about the organisation.

Ahearne et al. (2005) tested the relationship between organisational image, organisational identification and customer behaviour in an empirical study that involved sales representatives selling pharmaceutical products to physicians. The study found that (1) both the organisation's and the salesperson's characteristics contributed to the development of consumer-organisation identification and (2) that customers do indeed identify with organisations and that consumer-organisation identification positively impacts both product utilisation behaviour and extra-role behaviour, such as positive word-of-mouth, recruiting other customers and suggesting product improvements.

Einwiller et al. (2006) argue that although identification develops and grows over time, an individual can identify with a company or organisation that he/she has not previously interacted with if that person and the organisation share the same values. On the basis that similarity among customers can be a major factor that attracts an individual to a particular company or brand (Aaker 1997), Karaosmanoğlu, Baş, and Zhang (2011) conducted a study to assess the extent to which consumer-company identification is influenced by consumers' perceptions of an organisation's (other) customers.



In summary, this chapter has revealed that a causal and sequential link between organisational image, organisational identification, and some consequence in customers' behaviour has been proposed in the literature (Bhattacharya and Sen 2003; Ahearne et al. 2005). It is the link between organisational image/identification and customer behaviour that forms the core of this study's conceptual model. The research investigates the extent to which the future behavioural intentions of potential students (which university(s) they intend to support) is influenced by the images they hold of different institutions and the extent to which they identify with different institutions. The study's conceptual framework and hypotheses are set out and justified in the following chapter.

Chapter 5 Conceptual framework and hypotheses

5.1 Overview of conceptual framework

The conceptual framework comprises four stages, as presented in Figure 4: image formation → student assessment of image attractiveness → student-university identification → students' behavioural (supportive) intentions. As revealed in Chapter 4, the conceptual model is based on Bhattacharya and Sen's (2003) proposition and the results of Ahearne et al.'s (2005) empirical testing. Hypotheses are established for each of the four stages of the conceptual model. The first set of hypotheses focus on the sources of information and influence on university image formation among prospective higher education students; the second set is concerned with the criteria used by students to evaluate university image attractiveness; the third set are related to the components of student-university identification; and, finally, the fourth set represent predictions of the consequences of perceived image attractiveness and student-university identification, specifically the impact that they have on planned behaviour in terms of choice of institution for higher education.

The hypotheses are based on propositions and empirical findings found in the literature, which is summarised in the following three sections before each set of hypotheses are presented. Chapters 3 and 4 already introduced the marketing, image and identification literature that will be drawn upon. In addition, this chapter introduces some education-specific literature (e.g., Keller and Staelin 1987; Moogan et al. 2001; Arpan et al. 2003; Menon 2004; Ressler and Abratt 2009), which is intended to strengthen justification for the hypotheses presented.

Some of the variables and constructs in the conceptual model are involved in multiple relationships, which will be tested. For example, it is hypothesised that interpersonal relationships have an influence on image formation, image evaluation and organisational identification, whilst both image attractiveness and organisational identification determine students' behavioural intentions. The hypotheses will be tested empirically using a sample of potential higher education students in the UAE (year 12 and 13 high school students).

Finally, a model that incorporates the variables and relationships associated with image evaluation, organisational identification and supportive intentions will be created and then tested using structural equation modelling.

5.2 Formation of university images by potential students

Research question 1: What are the sources of information and influence on university image formation among prospective higher education students in the UAE?

Higher education requires a large investment from students in terms of time and financial outlay. It is reasonable to assume, therefore, that students will seek sufficient information to enable them to form distinct images of the different institutions, so that they can make informed choices (Menon 2004). In Figure 4, information is represented by 'university controlled communication' and 'communications not controlled by university'. Communications not controlled by university includes information gained through personal relationships.

In the literature it is emphasised that organisations themselves play a significant role in creating their corporate identities, and therefore also the corporate images held by stakeholders (e.g., Balmer and Greyser 2002; Dacin and Brown 2002; Melewar and Akeel 2005; Karaosmanoglu and Melewar 2006). Organisations can use corporate and marketing communications to influence the images formed by stakeholders (Balmer and Greyser 2002, p. 82). Universities globally are facing increased competition and reduced levels of public funding. The result is that universities are becoming more focused on their stakeholders, as well as adopting the market orientation (Arpan et al. 2003; Ressler and Abratt 2009).

In adopting the market orientation, universities have had to pay more attention to their identities and reputations. This has led many universities to specifying more clearly their ideal and desired identities, and increasing the volume and quality of communication with their stakeholders. Keller and Staelin (1987) argue that student decisions are influenced by the quantity and quality of information about an institution available to them, and Moogan et al. (2001) claim that institutions with easily accessible comprehensive information will find it easier to recruit students. Various researchers have found that the preferred medium of students seeking information about colleges is the Internet (Pampaloni 2010). Among successful institutions one would expect to see smaller gaps between desired/communicated identities and conceived identities (university images). However, researching ideal/desired identities and corporate identity are beyond the scope of this study. Communications that potential students find relevant in image formation of foreign universities in the UAE might relate to either the parent institution/campus or to the branch itself.

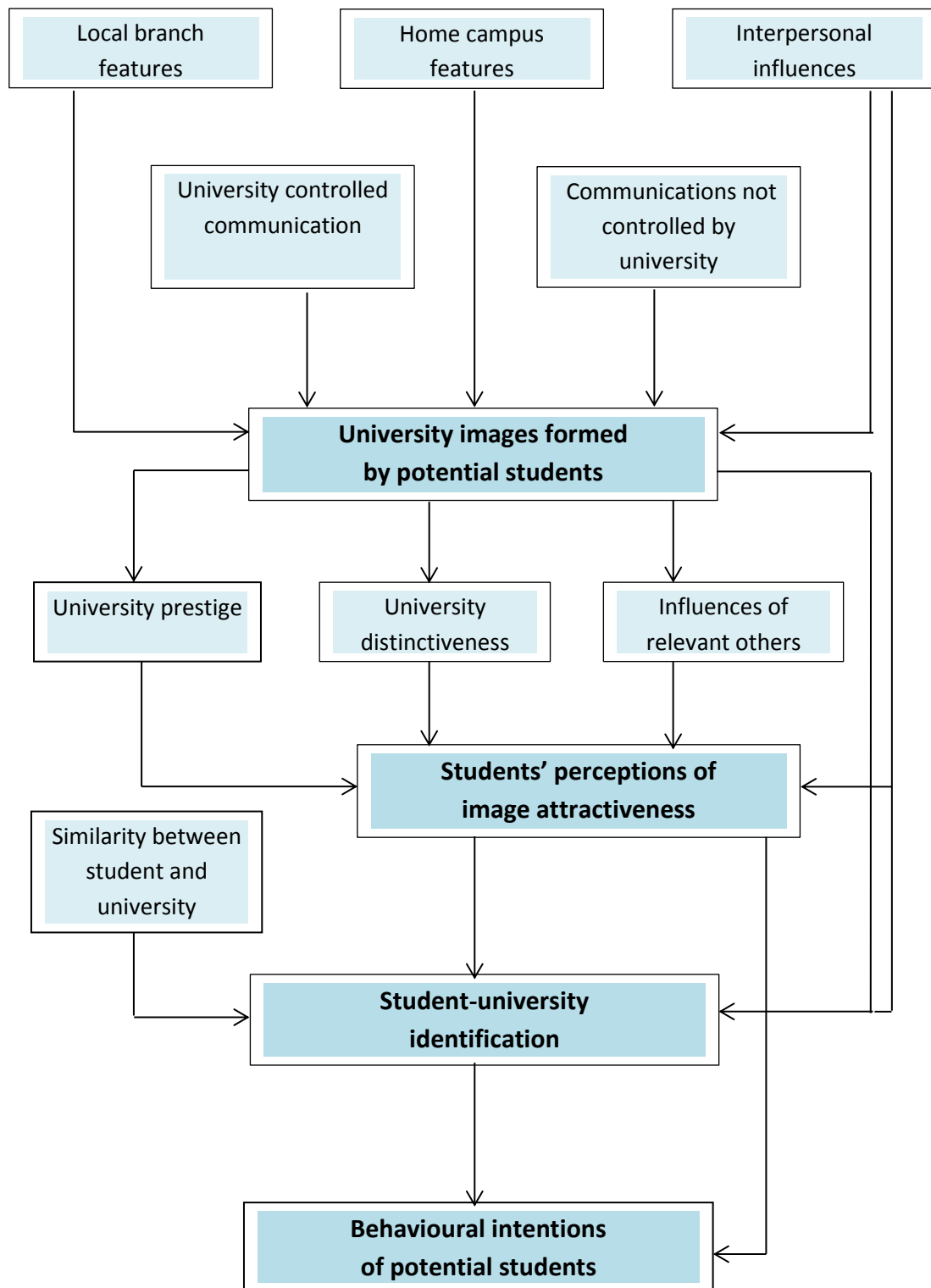


Figure 4. Conceptual framework.

Even though communications can be planned and delivered by organisations, unplanned communications - largely outside their control - such as media coverage and word-of-mouth, are also influential in corporate image formation (Stuart 1999; Bhattacharya and Sen 2003, p. 78). Williams and Moffitt (1997, p. 241) argue that corporate image is not determined mostly by the organisation, but also by environmental factors (such as demographic characteristics of an audience member) and personal factors (such as the extent of personal impact felt) relating to the stakeholder.

The information searching stage of the student decision-making process requires students to be well-organised and to devote considerable time and effort to the task in order to achieve the data that is needed or desired. Students typically conduct an internal search, retrieving existing information from their memories, such as knowledge from past experiences, and an external search, which involves gathering new information (Blackwell, Miniard, and Engel 2006). Parents, teachers and higher education advisers generally encourage students to plan and conduct a systematic information search against a set of pre-determined criteria, which might take into account the student's ability and career ambitions, and the level of tuition fees that the student, or their families, can afford. However, across all types of products, consumers tend to search for more information when purchasing services, because services are seen as involving more risks. Given that higher education can be life changing, and requires considerable commitment in terms of time (usually 3 or 4 years for a bachelor's degree), it is important that prospective students acquire adequate information to make a well-informed decision (Briggs 2006; Simões and Soares 2010).

The external information search can involve students gathering information from both personal and non-personal sources. Using a classification proposed by Olshavsky and Wymer (1995), external information sources can be grouped as those involving inspection by the consumer (e.g., open days and taster days), those controlled by the university (e.g., institution web sites and prospectuses/viewbooks), those provided by independent sources (e.g., media rankings and government quality reports), those provided by parties with an interest in the student's choice (e.g., higher education agents, which are used by many international students) and interpersonal sources (e.g., alumni, friends, family and teachers).

Kazoleas et al. (2001) operationalized image from a variety of perspectives including personal (e.g., socio-economic background), environmental (relative quality, location, financial reasons, entry requirements) and organisational factors (buildings, landscaping, sports facilities, campus size, academic programmes, libraries and technical facilities). They found that each opinion, each attribute, each piece of knowledge about the institution could be used

to construct a separate image of the university, e.g., relating to academic programmes, quality of education, environmental factors and sports programmes. The sub images related to organisational factors that had the greatest influence on overall institutional image were images of academic programmes, campus landscaping and size of campus. In a survey of current university students, academic factors, athletic factors and the extent of news coverage of the university were found to be the key predictors of university image (Arpan et al. 2003).

Studies undertaken by Simões and Soares (2010) in Portugal and by Sojkin, Bartkowiak, and Skuza (2012) in Poland found that the information sources used most often by prospective students are the Internet (university web sites and forums), brochures and literature produced by universities, and the recommendations of friends and current or former students of universities. Consumer behaviour is however often irrational and ill-informed, and students might consider image as an important component of perceived quality (Baldwin and James 2000). With skilful branding and marketing, institutions can often project an image of high quality when actual quality is in fact considerably lower (Naidoo 2007).

The greater a student perceives their decision as involving high risks, the more likely he/she is to want to engage in direct observation and inspection, and to use interpersonal sources, which allow elucidation and feedback (Simões and Soares 2010). Vrontis, Thrassou, and Melanthiou (2007) propose that academic ability, gender and personality are determinants of students' decision-making behaviour, and Menon (2004) found that students of lower socio-economic status are more likely to engage in active information searching, possibly because compared to higher status students they perceive higher education as involving greater financial risk.

Previous research has found a connection between preferred information sources and individual factors. For example, Chen (2008) found that preferences for relying on different marketing and interpersonal sources varied significantly between graduate and undergraduate students, while Wilkins and Huisman (2011a) found different preferences among students of different nationality. In countries such as Malaysia, Singapore and the UAE, expatriates account for large proportions of total enrolments at branch campuses. The large and varied expatriate population of the UAE has led to diverse social, cultural and religious influences in all areas of social life. However, the cultures and social norms of the dominant national groups that originate from countries across the Middle East and South Asia do share similarities in attitudes towards the roles and expectations of male and female children within families, which might influence the higher education choices of boys and girls.

This leads us to the following hypotheses:

Hypothesis 1: The more a student relies on university controlled communications as a source of information, the greater his/her ability to form distinct images of university branch campuses that he/she perceives as accurate.

Hypothesis 2: The more a student relies on interpersonal relationships as a source of information, the greater his/her ability to form distinct images of university branch campuses that he/she perceives as accurate.

Hypothesis 3: The more information that a student obtains, the greater his/her ability to form distinct images of university branch campuses that he/she perceives as accurate.

5.3 Evaluation of university image attractiveness by potential students

Research question 2: What are the criteria used by prospective higher education students in the UAE to evaluate the images they hold of international branch campuses?

A university cannot easily be conceptualised in a single image because each department, each college, each collection of professors possess their own images. Stakeholders can also hold different and multiple images simultaneously because each stakeholder uses different criteria when assessing an institution (Arpan et al. 2003). The images of organisations can be measured and interpreted in many different ways (Sung and Yang 2008).

Kennedy (1977) claims that corporate image comprises functional and emotional components. The functional component is related to tangible characteristics, which are easily measured (e.g., product features), while the emotional component is concerned with psychological aspects, such as an individual's feelings and attitudes towards the organisation. The feelings and attitudes result from personal experiences and the processing of multiple sources of information. Corporate image, therefore, is the result of an aggregate process by which an individual compares and contrasts various attributes of an organisation (Nguyen and LeBlanc 2001).

Corporate image construction is influenced by personal and social factors as well as organisational factors (Williams and Moffitt 1997). At any one time, individuals, and groups of stakeholders, can hold different images of an organisation since they will each have different experiences, they will focus on different attributes of the organisation and will refer to different sources of information. Also, an individual can hold multiple images simultaneously

and different images over time, as new information is gained and processed or new experiences encountered.

When consumers purchase services, expensive products or those that will have a longer-term impact on their lives, they are more likely to pay greater attention to corporate image evaluation. Bhattacharya and Sen (2003) argue that as consumers aim to satisfy their fundamental needs for self-continuity, self-distinctiveness and self-enhancement, their evaluation of an organisation's image will depend on the extent to which they perceive the organisation's identity to be similar to their own, the extent to which the organisation is distinctive in ways that they value, and the extent to which the organisation is regarded as prestigious among stakeholders whose opinions they value.

In a study conducted by Sung and Yang (2008), university image attractiveness was measured through three variables: university personality (friendly, stable, practical, warm); external prestige (looked upon as a prestigious school in society overall, acquaintances think highly, high rankings, positive media coverage); and university reputation (student care top priority, strong prospects for future growth, well-managed, socially responsible, financially sound).

Investigating university image in the US, Kazoleas et al. (2001, p. 211) found that it was mainly interpersonal relationships, e.g., with family members and friends, and personal experiences that influenced perceptions of university image among community members, rather than organisation-controlled communication and media exposure. They found that seven factors explained a large proportion of the university's image: overall image; programme image; teaching and research emphasis; quality of education; environmental factors; financial reasons; and sports programmes.

Furthermore, Kazoleas et al. (2001) discovered that individuals hold multiple images, which are not identical but which are affected by personal, environmental and organisational factors. For example, a university's high ranking and positive news stories in the media may lead a potential student to have a positive image of the university in terms of academic quality, but then a negative image might emerge when a friend studying at the university tells that student about large class sizes and inaccessible professors. In addition, the parent institution and the branch may hold different positions in rankings and have completely different types of location and architecture, creating conflict in image formation of the branch.

Arpan et al. (2003) found that students considered a range of factors when assessing a university's image, including name recognition, academic quality, social life, sports facilities and achievement, news coverage and the physical environment of the institution. However, the factor analysis used in the final round of analysis in the study yielded a solution with only two components: academic factors and sports-related factors. Arpan et al. (2003) conducted their research in the US, where sport in education is very important to many students, but given the culture and physical climate of the UAE, sports-related factors are unlikely to be a key determinant in image formation.

Therefore:

Hypothesis 4: The more prestigious a university is perceived by a student, the more attractive the university's image will be to him/her.

Hypothesis 5: The more that relevant others are perceived by a student to hold positive views about a university, the more attractive the university's image will be to the student.

5.4 Student-university identification

Research question 3: What are the components of student-university identification among high school students in the UAE?

Social identity theory posits that individuals define themselves by being members of social groups and categorisations, examples being gender, nationality, socio-economic classification and academic ability (Karaosmanoglu and Melewar 2006, p. 203). Students are more likely to identify with others who share similar interests, such as music or sports, and personality traits, such as commitment to study or having fun. Ahearne et al. (2005, p. 575) explain that in their quest for social identity enhancement and to fulfil self-definitional needs such as belongingness, individuals can turn to organisations as customers.

A student's evaluation of a university's identity is based on his/her perceptions of that identity. Three basic principles of self-definition - the need for self-continuity, self-distinctiveness and self-enhancement - account for the attractiveness of an organisation's perceived characteristics and help explain why it strengthens customer identification (Ahearne et al. 2005, p. 576). Various researchers have claimed that the more attractive the perceived image of an organisation, the stronger a person's identification with it will be (Dutton et al. 1994; Bhattacharya and Sen 2003; Ahearne et al. 2005). However, it cannot be assumed that students will always identify with the institutions that they perceive as having the most

attractive images. For example, the images of Oxford and Cambridge held by most stakeholders in the UK are probably attractive, yet students from lower socio-economic backgrounds may not identify with these institutions and, believing that they would not 'fit in' at such institutions, they may have no desire to study at them.

Bhattacharya and Sen (2003, p. 77) and Ahearne et al. (2005, p. 575) claim that identification is more likely to occur when the customer perceives there to be a distinct comparison set and when organisations in that set are themselves distinctive. The focal organisation's characteristics become more salient and accessible when a distinct set of relevant comparisons are present (Bartel, 2001). The defining characteristics that shape an organisation's identity include the organisation's mission, structure, processes and climate (Scott and Lane 2000).

Students are able to satisfy their self-enhancement needs by identifying with universities that have prestigious identities (Ashforth and Mael 1989; Dutton et al. 1994; Bhattacharya and Sen 2003). Identification with a university that has a prestigious identity enables students to view themselves in the reflected glory of the university, which enhances their sense of self-worth (Bhattacharya and Sen 2003, p. 80). The perceived prestige of a university might be influenced by a wide range of factors, including positions in rankings (Melewar and Akeel 2005, p. 52), country of origin (Balmer and Liao 2007, p. 369) and strength of the university brand (Curtis et al. 2009, p. 405). In a survey conducted in the UAE and Sultanate of Oman, many students believed that the US and UK offer the best higher education worldwide (Wilkins 2001, p. 166).

Mael and Ashforth's (1992) study of organisational identification among college alumni identified organisational distinctiveness and organisational prestige as two of the antecedents of identification. Organisations often attempt to define their identities by finding a distinctive niche (Albert and Whetten 1985). Distinctiveness differentiates the organisation from other organisations and provides a sharper and more salient definition for individuals. Identification is related to the perceived distinctiveness of the organisation's values and practices relative to those of comparable organisations (Oakes and Turner 1986).

Perceived organisational prestige is an antecedent of identification because the more prestigious the organisation, the greater the potential to achieve self-esteem, because identification with a prestigious organisation enables the individual to view him or herself in the reflected glory of the organisation, which enhances their sense of self-worth (Bhattacharya and Sen 2003; Cialdini et al. 1976; Mael and Ashforth 1992). Bergami and Bagozzi (2000, 561)

explain that the term 'organisational prestige' is used to refer to an individual's perception that other people, whose opinions they value, believe that the organisation is admired, respected and well-known.

Kim, Chang, and Ko (2010) found that students' perceived prestige of academic departments positively impacts on their identification with those departments, students' perceived prestige of athletic programmes positively impacts on their identification those programmes, and students' identification with academic departments and athletic programmes positively impacts on their identification with the university. At a liberal arts college, Cameron and Ulrich (1986) discovered that a new president's ability to transform the institution's identity from one of mediocrity to one of excellence led to increased support from its members (students and staff).

In the US, Arpan et al. (2003) found that athletic excellence had a significant impact on the overall images of universities. In the UK, programme specialisation is a distinctive feature of some universities, such as sport at Loughborough and finance at City University (McCall 2011). Student intake is another defining characteristic of universities; in the UK, for example, Greenwich has the most 'working class' students, Oxford and Durham have the highest proportions of students from public (non-state) schools, and the London School of Economics has the most international students, with almost half of its students coming from overseas (McCall 2011).

Students might also be influenced by how they think other relevant stakeholders - such as their parents, employers and local (country level) quality assurance/regulatory bodies - view the university. When a student sees the construed external image of a university as attractive, i.e., he/she believes that the university's characteristics are positive and socially valued by relevant others, then his/her identification with that university is strengthened (Ahearne et al. 2005, p. 577). Social identity theory would claim that students are likely to develop similar views to those whose opinion they value in order to gain approval, respect and group membership (Bhattacharya and Sen 2003). Prospective undergraduate students are likely to have several 'significant others' in their lives whose opinions they value, including parents, relatives, teachers and friends, some of which might be existing or past students of the institution being evaluated. Those significant others are likely to themselves be influenced by an institution's reputation, i.e., the institution's distinctive and salient features that are widely accepted or recognised.

Students are more likely to identify with organisations with which they have had previous interaction (Ahearne et al. 2005, p. 576), for example, students who have attended university open days or presentations given at their high schools by university staff. Bhattacharya and Sen (2003, p. 80) claim that when people believe they have lower levels of knowledge about an organisation's identity, they will be less confident in their ability to make identity-based judgements about that organisation. Students will identify with particular universities if they believe that the institution's distinctive and salient characteristics are self-referential or self-defining and enriching to their own social identities (Ashforth and Mael 1989). In order to make such judgements, students require information.

The above leads to the following hypotheses:

Hypothesis 6: The more similar a student perceives him/herself to be to a university and the students who study at it, the more strongly he/she will identify with that university.

Hypothesis 7: The more a university is perceived by a student to satisfy self-esteem needs, the more strongly the student will identify with that institution.

Hypothesis 8: The more attractive a student perceives a university's image, the more strongly the student will identify with that university.

5.5 Consequences of image evaluation and student-university identification

Research question 4: To what extent do students' evaluations of university image attractiveness influence their supportive intentions?

Research question 5: To what extent does student-university identification influence students' supportive intentions?

A number of researchers have found that corporate image affects consumer product judgements and purchase decisions (Aaker and Keller 1993; Belch and Belch 1987; Wansink et al. 1998). Brown and Dacin (1997) concluded that positive images of organisations lead to positive product evaluations, while Bhattacharya and Sen (2003) claim that the more attractive an individual perceives an organisation's image, the more likely the individual will engage in supportive behaviours for the organisation, such as becoming a customer, remaining loyal to the organisation and recommending the organisation to others.

Research conducted in a variety of contexts has confirmed a positive relationship between an individual's identification with an organisation and their supportive behaviours towards that organisation (e.g. Ahearne, Bhattacharya, and Gruen 2005; Hong and Yang 2009;

Karaosmanoğlu, Baş, and Zhang 2011; Kim, Chang, and Ko 2010; Mael and Ashforth 1992; Wu and Tsai 2007). A study by Cornwell and Coote (2005) even found a positive relationship between an individual's identification with a not-for-profit organisation and their intentions to purchase products from a company that sponsored/supported the not-for-profit organisation.

Attitudinal and behavioural commitments represent likely outcomes of identification, which often then reinforces the strength of identification (Einwiller et al. 2006). Previous research has found that people tend to form emotional bonds with companies and brands, and that emotional attachment may influence an individual's evaluation of an organisation (Karaosmanoğlu, Baş, and Zhang 2011). The degree of an individual's emotional attachment to an organisation depends on the perceived attractiveness of the organisation's identity and the self-concept, so people will become more emotionally attached to organisations when they perceive that they and the organisation share similar qualities and values (Karaosmanoğlu et al. 2011).

Ahearne et al. (2005, p. 577) argue that from a social identity standpoint, once a consumer identifies with an organisation, then patronising that organisation becomes an act of self-expression, and, through patronising an organisation, the consumer can achieve his/her self-esteem, self-definitional and self-continuity needs (Bhattacharya and Sen 2003).

Therefore:

Hypothesis 9: The more attractive a student perceives a university's image, the greater the student's intentions to support that institution.

Hypothesis 10: The more strongly a student identifies with a particular university, the greater the student's intentions to support that institution.

Hypotheses 9 and 10 are intended to discover the extent to which university image and student-university identification determine choice of university (attachment/membership intentions) rather than other factors, such as socio-economic status of the student's family, cost of tuition, location of university and parental/family influences. A structural model based on the latter three stages of the conceptual model presented in Figure 4 will be developed to assess the strength of the relationships between organisational image attractiveness and student-university identification with students' supportive intentions for a particular university.

Chapter 6 Methodology

6.1 Research approach

The approach of any research must be consistent with the research question(s) and, usually, with the norms in the discipline. Marketing, and in particular consumer behaviour, are two subject areas associated with the scientific approach (Maylor and Blackmon 2005, p. 142). Although the scientific approach is the prevailing approach in marketing research, it is not the only approach used. However, given the research questions of this study (mainly 'what?' questions) and the fact that the marketing literature does contain theory on organisational image and identification, a deductive and scientific approach to this research seems appropriate.

Deductive research draws on existing theory in the creation of testable hypotheses. Data is collected and analysed in order to support or reject the hypotheses. However, according to Popper (1959), there is no such thing as objective observation and so theories can never be *proven* true, only proven to be false. The scientific method involves a generally accepted set of procedures for developing and testing theories. Robson (2002) claims that deductive research typically involves five sequential stages: (1) Using theory to create hypotheses; (2) Expressing the hypotheses in operational terms – how the concepts or variables will be measured and the relationships between pairs of concepts or variables; (3) Collecting data which is then used to test the operational hypotheses; (4) Analysing the results to support or reject the hypotheses; and (5) Developing or modifying the theory (if appropriate to do so).

Motivations for adopting the scientific approach include:

- Replication – will the findings of this research confirm the propositions and findings of (for example) Kazoleas et al. (2001); Arpan et al. (2003); Bhattacharya et al. (2003); Ahearne et al. (2005); Ressler and Abratt (2009); Kim et al. (2010)?
- Extension – can organisational image and identification theory be applied in different contexts, for example, to newly established overseas subsidiaries (which lack reputations) and to potential rather than to existing students?
- Comparison – using the study's findings to aid comparison of existing competing theories and propositions.

In the scientific approach, an extensive literature review is commonly undertaken as part of the process to develop the research design. The literature review undertaken in this study enabled development of a conceptual framework (see Chapter 5), which identifies the key issues and concepts that are of interest and the expected relationships between them. The

literature review also aided the development of suitable hypotheses that can be subjected to testing.

The stated research approach – the scientific method – makes clear the general logic for answering the research questions. Having decided upon the research approach defines to a great extent how the research will be conducted. For example, in the scientific approach, it is most common for hypotheses to be tested using quantitative data (Saunders et al. 2009, p. 125). The scientific approach seeks to support or reject theory (by using a specific case or set of data to confirm generalised laws). It is assumed that the researcher is independent and remains objective. In other words, it was important that I tried to set aside any preconceptions about how the world works. The considerable physical distance between the UK and UAE and the planned method of data collection (a survey utilising a self-completed written questionnaire) both made it somewhat easier for me to remain distant and objective, thus minimising potential personal biases. The scientific approach requires a highly structured approach that allows replication, in order that findings can be generalised.

6.2 Research philosophy

The research approach can be considered as existing at the highest level of the research hierarchy. After the research approach comes the research philosophy, which sets out the ‘rules of the game’, or the logic of inquiry governing the research approach. The research philosophy refers to the assumptions that underlie the research approach. These assumptions mainly concern the nature of reality (ontology) and how we can know reality in a particular field of study (epistemology).

In deciding upon the ontological orientation for this study, the key question to consider was whether social entities can and should be considered objective entities that have a reality external to social actors, or whether they can and should be considered social constructions built up from the perceptions and actions of social actors (Bryman and Bell 2007, p. 22). An objectivist ontology asserts that social phenomena and their meanings have an existence that is independent of social actors. The alternative position, where social phenomena are created from the perceptions and consequent actions of social actors is known as ‘subjectivism’ - the term used by Maylor and Blackmon (2005, p. 156) and Saunders et al. (2009, p. 111) - or ‘constructionism’, the term used by Bryman and Bell (2007, p. 23).

The objectivist ontological position is frequently adopted in management and marketing research, particularly when the scientific method has been chosen. Cultures can be viewed as repositories of widely shared values and customs into which people are socialised so that they

can function as good citizens or as full participants. Cultures constrain individuals because people internalise their beliefs and values. Thus, the social entity in question comes across as something external to the actor and as having an almost tangible reality of its own. This situation describes the objectivist ontology, which is adopted for this research.

Final year high school students are expected to take exams that represent the completion of their secondary education, and the results of those exams dictate subsequent subjects studied and universities attended, whereby the highest achieving students are matched with the highest quality universities. Universities exist in a hierarchy, relating to status and quality, which is universally accepted by individuals in the societies in which the institutions operate. Rankings published by the media and government agencies reinforce the accepted relative positions of HEIs. It is assumed, using an objectivist ontology, that *ceteris paribus*, students hold similar images of different institutions and undertake a similar decision-making process to select an institution to attend.

Epistemology is concerned with what constitutes acceptable knowledge in a field of study. The two extreme epistemological positions in management and marketing research are positivism, which is derived from the philosophy of science, and interpretivism/subjectivism, which is derived from the philosophy of social science. The positivist epistemology is most congruent with an objectivist ontology. Researchers adopting a positivist epistemology work only with observable social phenomena, with the aim of supporting or rejecting law-like generalisations. The research is undertaken in a value-free way, usually using a highly structured methodology in order to facilitate replication (Gill and Johnson 2002). The observations are quantifiable, which allows statistical analysis. In contrast, the interpretivist approach aims to understand what is happening in the context of the phenomenon under examination, in terms of the researcher's interpretation of the data (Carson et al. 2001); it is about understanding how people make sense of the world, with human action being conceived of as purposeful and meaningful (Gill and Johnson 2002).

Alone among the social science disciplines, marketing has remained largely in the positivist tradition (Kiel 1998), and in consumer research in particular, where researchers focus on explaining and predicting causal relations and linkages (Hunt, 1991). This is not to say that all marketing researchers adopt a positivist epistemology; many prefer an interpretivist approach, and research methods such as the focus group, long popular among marketers, is of course an example of qualitative research that adopts an interpretivist epistemology. Although quantitative research approaches are often associated with a positivist epistemology, Phillips

(1987, p. 96) argues that, “there is nothing in the doctrines of positivism that necessitates a love of statistics or a distaste for case studies”.

Many writers have questioned the appropriateness of the positivist approach for the study of society (Bryman and Bell 2007). Hindess (1977, p. 135) observes that positivism seems to contradict itself since it excludes from its conceptualisation of warranted knowledge its own grounds for warranted knowledge. Since positivism cannot account for itself on its own terms, it becomes indefensible in its own terms (Johnson and Duberley 2000, p. 33). Positivists explain social behaviour by providing a deterministic account of the external causal variables that brought about the behaviour in question through the observation of the empirically discernible features and antecedent conditions of that behaviour, the process known as ‘erklären’. Subjectivists argue that the social world cannot be understood by excluding the subjective basis of action and that in practice it is almost impossible for a researcher in the management/marketing field to work completely free of their own values. The researcher’s values will to an extent determine their choice of research objectives and questions, what data to collect and how to analyse that data.

There is an alternative to positivism that is congruent with an objectivist ontology: realism, or critical realism. Realism shares two features with positivism: a belief that the social sciences can and should apply the same kinds of approach to data collection and explanation as the natural sciences and that there exists a reality that is separate from our descriptions of it (Bryman and Bell 2007, p. 18). Direct realists believe that what we experience through our senses portrays the world accurately, whereas critical realists argue that what we experience are sensations, the images of the things in the real world, not the things directly (Saunders et al. 2009, p. 114-5).

Bhaskar (1989) argues that we are only able to understand the social world if we identify the structures at work which generate events and discourses in the social world, and that those structures are not spontaneously apparent in the observable patterns of events. Critical realists, such as Bhaskar, believe that structures can only be identified and understood through practical and theoretical work conducted after observation of the social phenomena. In other words, critical realism claims that there are two steps to experiencing the world: first, there is the thing itself and the sensations it conveys; and second, there is the mental processing that goes on some time after that sensation meets our senses.

Jefferies (2011, p. 38) argues that critical realism, “struggles to reconcile the assertion that empirical reality cannot show the truth of the world; that the idea cannot correspond with the

thing itself; with an acceptance that the thing in itself can be known and that without empirical proof science is unscientific, abstract and empty... It inadvertently refutes the possibility of science through its assertion of an open, undetermined social world, not subject to laws even retroductively, while failing to notice that it applies the very laws that it denies exist, both in the natural world and the social one.” Thus, the critical realist approach can be criticised as being neither consistent nor scientific.

Given the specific nature and objectives of this research – to describe and explain how students evaluate university images and how they come to identify with particular institutions, in order to make predictions and generalisations about students’ intended behaviours – a positivist epistemology seemed most suitable. Thus, it is assumed that reality is discovered through observation, that cause and effect relationships exist, and that an objective truth can be identified (Easterby-Smith et al. 2002). Adopting a positivist epistemology, it is believed that facts can be produced and truths established, which allowed the creation of a structural model that enabled testing of the predictions about the antecedents and consequences of perceived image attractiveness and organisational identification. In considering axiology, the branch of philosophy that studies judgements about value, it is assumed that this research is undertaken in an independent and value-free way, in which the researcher is unbiased by world views, cultural experiences and upbringing, which might otherwise have impacted upon the research.

6.3 Research strategy

It is common for researchers adopting the scientific method to use a quantitative research strategy. A quantitative approach involves measurement, whereas a qualitative approach does not. However, quantification or the absence of quantification is not the only thing that distinguishes quantitative research from qualitative research. Quantitative research tends to be deductive whilst qualitative research is generally inductive; quantitative research adopts an objectivist ontology whilst qualitative research adopts a subjectivist/constructionist ontology; and quantitative research tends to adopt a positivist (or realist) epistemology whilst qualitative research adopts an interpretivist orientation. These are common differences found between the quantitative and qualitative approaches, although many examples exist in the literature of research that does not comply with these categorisations. For example, qualitative research can and has been used to test theory (Bryman and Bell 2007, p. 29).

Although mixed-method research has become more popular, the incompatibility thesis claims that quantitative and qualitative research, along with the methods associated with each, are incommensurable and thus should not, and cannot, be used in tandem (Howe, 1988).

Whilst rejecting the incompatibility thesis, it was felt that the research questions were best answered by adopting a quantitative approach, and a quantitative research strategy is congruent with the chosen research approach and philosophy. Although the research is essentially deductive in nature, testing the theories, propositions and findings of researchers such as Kazoleas et al. (2001); Arpan et al. (2003); Bhattacharya et al. (2003); Ahearne et al. (2005); Ressler and Abratt (2009); and Kim et al. (2010), this study does also have an inductive aspect to it as previous research has not focused on image formation and organisational identification among *potential* consumers (using data collection methods specifically designed for potential consumers).

A qualitative approach involving in-depth face-to-face interviews was considered given that such interviews would likely yield rich and detailed data, and also identify a wider range of factors/variables that might be relevant to the research, but it is unlikely that a large enough sample could have been achieved to produce generalisable results. Also, the data might have been difficult to analyse. But, most importantly, a qualitative approach would have been unsuitable for testing the hypotheses and structural model. Furthermore, an examination of the organisational identification literature revealed that not only did virtually all studies adopt a quantitative approach but they also used structural equation modelling.

Concepts are the building blocks of theory and represent the points around which research is conducted. The concepts that are relevant in this study include organisational (university) image, organisational identification and student attitudes and perceptions. To be involved in quantitative research, concepts must be measured. Once measured, concepts can take the form of independent or dependent variables. In other words, the variables can be predictors, which explain a certain aspect of the social world, or the thing that is being explained.

In order to provide a measure of a concept, it is necessary to have an indicator or indicators that will stand for the concept. This process of creating indicators is known as operationalization. In this study, indicators take the form of questions in a self-completed questionnaire. Multiple indicator measures will be utilised to offset the potential problems of respondents misunderstanding individual questions and having indicators that cover only one aspect or a portion of a concept.

The use of a quantitative approach established relationships between variables. In some models the relationships between variables can be multidirectional. For example, country of origin is widely acknowledged as a possible influence on corporate image, but corporate image might also influence country image (Lopez et al. 2011). The nature of the problem being

investigated in this research is such that there was little ambiguity about the direction of causal influence, i.e., organisational image and identification contribute to determination of behavioural intentions. Causality was confirmed through discussion with respondents in the pilot study interviews and through examination of findings and conclusions in the literature. The sample size was sufficiently large to suggest that the findings are generalizable at least across all high school students in the UAE. A second sample was used to confirm replicability (a set of respondents randomly drawn from the original sample).

6.4 Research design

A research design provides a framework for the collection and analysis of data. The choice of research design reflects decisions about the priority being given to a range of dimensions in the research process, such as the importance attached to expressing causal connections between variables and the understanding of behaviour and the meaning of that behaviour in its specific social context (Bryman and Bell 2007, p. 40). The research design specifies clear objectives and research questions, specifies the source(s) from which the data will be collected, whilst recognising and planning for the constraints that will be faced, such as access to data, availability of time and costs.

This research may be categorised as ‘explanatory research’ as it seeks to establish causal relationships between variables connected with student formation of university images, student identification with universities, and the resulting behavioural intentions of students. The survey is a popular strategy often used in management and marketing research to answer ‘who?’, ‘what?’, ‘where?’ and ‘how much/many?’ questions when a deductive approach is being adopted. Surveys often involve a questionnaire administered to a sample, which generate standardised data that is relatively easy to compare and analyse.

Surveys enable large amounts of data to be collected from a sizeable population in a highly economical way. If the sample is large enough, it is possible to generate findings that are representative of the whole population, but using a sample is cheaper and requires less time than collecting data for the whole population, which in management and marketing research is usually not possible anyway. It was intended that the sample size used in this research would be large enough to enable a generalisation of student attitudes toward branch campuses in the UAE. Differences in students, institutions and national cultures and contexts mean that the findings will not be generalisable across other countries that also host a number of international branch campuses.

In order to claim that the findings are generalisable across all high school students in the UAE, a pilot study involving individual face-to-face interviews was conducted to test a draft of the questionnaire and to aid design of the final questionnaire (and to provide background information on the study topics). Then, when the final survey was conducted, every effort was made to ensure that the sample was representative of the population and that it was of sufficient size (requiring a high response rate). A drawback of using questionnaires for data collection is that there is a limit to the number of questions they can contain if respondents are not to be 'put off' from completing them. Also, the data collected from questionnaires is not as wide-ranging as those that can be collected using other methods. However, it is believed that other research methods – such as structured interviews, experiments, case studies and action research – would not be able to generate the quantity or type of data required to confirm causal relationships between the variables of interest.

As the survey provides a 'snapshot' in time, it can be categorised as cross-sectional research. In cross-sectional research, data is collected simultaneously or within a relatively short time period. All of the respondents in this research completed the survey questionnaire within an eight week period, which started in the second half of March 2012 and ended in the first half of May 2012. Researchers employing a cross-sectional design are interested in variation (Bryman and Bell 2007, p. 55). In this research, we are interested in the variation of the perceptions and attitudes held by students. Patterns of variation can only be established when a large number of cases are examined and when a systematic and standardised method is employed to measure the variation. For example, the use of a seven-point rating scale provided a clear and consistent benchmark to enable comparison of responses.

One drawback of the cross-sectional survey design is that if a relationship is discovered between two variables, it is usually not possible to determine whether a causal relationship exists, as the features of an experimental design are not present (Bryman and Bell 2007, p. 56). As a result, cross-sectional research is unable to achieve the internal validity that would be expected in experimental research. The criteria by which the credibility of the research findings from a cross-sectional survey can be evaluated are further discussed in the following section.

6.5 Criteria used for evaluating the credibility of research findings

6.5.1 Reliability

Reliability refers to the extent to which the data collection and analysis procedures used in a study will yield consistent findings. Reliability is an issue of particular importance in

quantitative research as it is expected that the results of a study are repeatable. However, in cross-sectional research it is difficult to establish stability, i.e., that there would be little variation of results over time if the survey was repeated. Robson (2002) claims that there are four threats to reliability: respondent error, respondent bias, researcher error and researcher bias. Respondent error might occur for example if students gave different responses at different times (of the day, week, year).

The survey was carried out between March and May 2012. Most year 13 students had previously done some research on different HEIs and many had already submitted applications to their preferred institution(s). All of the students who intended to study in the UK had already submitted applications to the Universities and Colleges Admissions Service (UCAS). The researcher had little control over when the schools administered the survey (day of the week and time of day). The questionnaire was issued to students by form/personal tutors. In most schools, there is one period each week when students meet with their form/personal tutors for an extended period and in most cases the questionnaire was completed by students during this session. Two schools, and some teachers, allowed the students to complete the questionnaire at home, but it was not possible to identify these questionnaires. It is not believed problematical that some students completed the questionnaire in different settings, as it was not a questionnaire for which the respondent was likely to seek help or input from others.

In some surveys, there is a danger that respondents give the answers that they feel are expected of them or the answers that they think are 'correct', but not necessarily applicable to them. This situation results in respondent bias. In this study, the questionnaires were completed anonymously and form/personal tutors will have had no interest in influencing students, and given the nature of the questions, it is not anticipated that bias occurred in students' responses. Nevertheless, the data was carefully examined to ensure that it was correctly and accurately interpreted, i.e. that the data does actually say what it is interpreted to be saying. The researcher is aware of the dangers of researcher error and bias and took care to remain independent and impartial.

When each respondent's answers to each question are aggregated to form an overall score there exists a possibility that some of the indicators do not relate to the same thing. If this occurs, then responses across either all of the questions or a sub-group of the questions will lack consistency. Internal reliability or consistency can be assessed by correlating the responses to each question with the other questions. Cronbach's alpha is a test commonly used to test internal reliability/consistency. It calculates the average of all possible split-half

reliability coefficients. The test produces a result ranging from 0, indicating no internal reliability, to 1, indicating perfect internal reliability. Nunnally (1978) recommends a minimum alpha value of .70, although in certain circumstances lower values might be acceptable, e.g., when a component has only two items (Iacobucci and Duhachek 2003). This research uses the Cronbach's alpha test to ensure internal reliability.

6.5.2 Validity

Validity refers to the issue of whether or not an indicator (or set of indicators) that is devised to gauge a concept really measures that concept (Bryman and Bell 2007). Validity can be categorised in a number of ways, such as internal validity, content validity, criterion-related (or predictive) validity and construct validity. In the context of this research, internal validity refers to the ability of the questionnaire to measure what it is intended to measure. Content validity was achieved by using items already developed and tested by other researchers, by seeking advice on the questionnaire design from other experienced researchers and practitioners, and by undertaking a pilot study. These procedures also helped to ensure content (or face) validity, i.e., that the questions appear to logically reflect accurately what they are intended to measure and that they provide adequate coverage to address the research questions.

Criterion-related (or predictive) validity is concerned with the ability of the measures (questions) to make accurate predictions. This research aims to predict students' future intended buying behaviours (not which university they actually go to) and so the use of a hold-out or second sample can be used to confirm criterion-related validity.

Finally, construct validity refers to the extent to which the questions actually measure the presence of the constructs that they are intended to measure. Construct validity is most important when dealing with constructs such as aptitude, personality, and, as in this research, attitudes. The development of a set of hypotheses, resulting from a thorough examination of the relevant literature, was used to test relationships between the variables of interest.

6.6 Sampling

This research is interested in the attitudes and perceptions of high school students in the UAE toward international branch campuses. Specifically, the population is sixth form students (years 12 and 13) in the UAE. As it would be impractical to collect data from the entire population – every sixth form student in the UAE – a sample is needed. It was not possible to obtain or create an accurate sampling frame for sixth form students, so the sampling frame used consisted of a list of all private sector schools in the UAE. The sampling frame does not

include public (state) schools, as the vast majority of the students in these are UAE nationals who go to one of the three state HEIs if they progress into higher education. These students will not therefore be considering or researching branch campuses.

A list of private schools was obtained (The National, 2011) that identifies the curriculum that each school follows (by country). Due to the difficulty of getting organisations in the UAE to participate in research, a convenience sampling strategy was adopted, i.e., using those schools that offered to participate in the research. An effort was made to ensure that the sample obtained is broadly representative of the school-age population in the UAE (ignoring UAE nationals) by selecting a range of schools that offer different curricula by country of origin. It is assumed however that UAE nationals who choose to study at an international school would consider international branch campuses for their higher education. It was not possible to accurately match schools to the nationalities of students because while Indian schools tend to cater for mainly Indian students, and Pakistani schools mainly for Pakistanis, schools offering UK or US curricula attract students with diverse nationalities and religions. Thus, a stratified random sampling method will be employed based on the curricula offered by schools.

The sampling error is the difference between the proportion of each nationality in the sample obtained and the proportion of each nationality in the UAE population. According to Bryman and Bell (2007, p. 194) the absolute size of a sample is more important than its relative size. They give the example that a sample of 1,000 individuals in the UK has as much validity as a sample of 1,000 individuals in the US, even though the US has a much larger population. The absolute size of a sample is important because of the statistical properties of sampling: as sample size increases, sampling error decreases. In determining a suitable minimum sample size, consideration was given to the estimated margin of error and the requirements of the statistical tests that were to be employed, as well as practical considerations such as time and cost constraints.

Researchers normally work to a 95% level of certainty (Saunders et al. 2009, p. 218). This means that if a sample is selected 100 times, at least 95 of these samples would be certain to represent the characteristics of the population. Saunders et al. (2009, p. 219) provide a rough guide to the different minimum sample sizes required from different sizes of population given a 95% confidence level for different margins of error. They state that most business and management researchers are content to estimate the population's characteristics at 95% certainty to within plus or minus 3 to 5% of its true values.

The UAE does not publish demographic statistics that show a breakdown by age in individual years, but given that the total population of the UAE is 7.2 million (UAE Interact, 2011), it can be estimated that the number of sixth form students in the UAE is under 100,000. Taking 100,000 as the size of the population and using Saunders et al.'s (2009) rough guide, the minimum sample size required at the 95% confidence level and 5% margin of error is 383. Thus, the study aimed to achieve a minimum sample size of approximately 400, in accordance with inferior limits proposed in the literature (Hair et al. 2010).

6.7 Data collection

6.7.1 Pilot questionnaire design

This research does not replicate any previous study in its entirety, so it was not possible to adopt any one scale from the literature. The process of item generation began with a search for previously developed instruments that might be of use in measuring students' perceptions of university image and student-university identification. Such studies do exist but few have attempted to link these two constructs in an empirical study and no research was found that applies the concept of organisational identification to *potential* customers using a questionnaire specifically designed for this purpose. So, where scales were found in the literature they were mostly only partially adopted, and adapted, to make them suitable for answering the study's research questions. The following sources were used to aid generation of items and development of scales: Mael and Ashforth (1992); Bhattacharya et al. (1995); Kazoleas et al. (2001); Palacio et al. (2002); Arpan et al. (2003); Bhattacharya and Sen (2003); Ahearne et al. (2005); Helgesen and Nasset (2007); Sung and Yang (2008); Hildebrand et al. (2010); and Pampaloni (2010).

The questionnaire was written in English. Almost all higher education in the UAE is taught in English so it was expected that all year 12 and 13 high school students would be proficient in English. The questionnaire was divided into sections, with each representing a sequential stage of the conceptual model: formation of university images; evaluation of university images; student-university identification; and students' behavioural intentions. The questionnaire used various question styles, but the majority of questions had a seven-point rating scale, on which respondents indicated their attitudes, perceptions or actions between two extreme choices.

This strategy allowed conclusions to be drawn about the weight and role of each factor affecting image formation, image evaluation, organisational identification, and students' behavioural intentions. Likert and seven-point rating scales are commonly used in questionnaires so it is likely that respondents were familiar with the format. A major

advantage of rating scales is that data is produced in a form that is easily transformed for statistical analysis on the computer. However, unless a label is given to each point on the scale then different respondents will interpret what each value represents differently. Even with labels, the results reveal students' responses as ordered comparisons.

Cohen et al. (2000, p. 246) provide a checklist for good questionnaire design, which was used to assess the likely effectiveness of the questionnaire:

1. Is the purpose of the questionnaire clear?
2. Is it clear what needs to be included or covered in the questionnaire to achieve its purpose?
3. Does the questionnaire ask the most appropriate types of question in the most appropriate ways?
4. Will the possible responses generated enable testing of the hypotheses and will they answer the research questions?

6.7.2 Pilot study

A small-scale pilot study was conducted before the full-scale survey to gain a richer understanding of UAE students' attitudes and perceptions, and the extent of their knowledge of different higher education institutions. The pilot study provided information which ensured that each of the final questionnaire items operated well and that the research instrument as a whole functioned satisfactorily. For example, it would have been pointless asking students to give their opinions on institutions they have never heard of or institutions about which they know nothing or very little. As the final survey questionnaire was planned to consist of mainly closed questions, it was hoped that open questions used in the pilot study might generate some additional fixed choice answers that had not previously been considered and which could be used in the questionnaire. (Bryman and Bell 2007, p. 273). Pilot studies are particularly useful when self-completed questionnaires are to be used, as the researcher is not usually present to help respondents who need help understanding instructions, questions or given responses.

A convenience sampling strategy was adopted. It was intended that interviews would take place at five different schools over five days during one week in January 2012, so nine schools were initially selected from a list of schools in Dubai (at <http://www.dubaifaqs.com/schools-dubai.php>) and invited to participate in the study. The schools that were chosen offered a variety of curricula (e.g., American, English, Indian and Lebanese/international), they had at least fifty year 12/13 students enrolled and they charged tuition fees at a level which increased

the likelihood of students progressing onto higher education (because students from low income households are less likely to be able to afford higher education tuition fees). It should be noted that international schools in the UAE that claim to be offering a 'British' curriculum are in practice really offering an English curriculum (i.e., they usually offer the GCSE/IGCSE and A Level qualifications).

Each school was sent one invitation letter by mail, which was addressed to the Head or Principal. Then, one follow-up telephone call was made to each school ten days after the letters had been sent (estimated to be about three days after the letters should have been received). Further communication with schools that showed an initial interest in the study was conducted by email. Five schools originally offered to participate in the study, but later one school withdrew (just days before the interviewer's visit was scheduled), as it had been unable to arrange interview times with students.

In the end, it was found that all of the schools that had agreed to participate in the research offered a Western (mainly English) curriculum. Although this has led to some bias in the sample, it should be noted that the English curriculum is by far the most popular among international schools in the UAE (36% of schools in Dubai - Knowledge and Human Development Authority 2012) and at many of these schools only a small proportion of the students are actually British or European. The schools following the CBSE Indian curriculum decided not to participate in the study as their students were busy preparing for exams that started a few weeks later. Each of the four schools organised the recruitment of interviewees and the scheduling of the interviews. The respondents either volunteered or were individually invited by their schools to take part in the study.

It should be noted that the pilot study did not adopt the research design or strategy described in earlier sections of this chapter. The pilot study adopted (in part) a qualitative approach that utilised individual face-to-face structured interviews, which were ideal for keeping the respondents focused on the intended topics. The questions asked are shown in Appendix 1. Twenty-three students from the target population participated in interviews, each lasting at least 20-25 minutes. Different schools were used for the pilot study and for the final survey, so it was not possible for participants in the pilot study to also be members of the sample for the full-scale survey, otherwise the representativeness of the samples would have been affected (Bryman and Bell 2007, p. 274). Thus, the participants in the pilot were comparable to members of the target population and to those participants used in the full study. The interviews were voice recorded so that important points mentioned by the students were not missed. Detailed notes were not taken during the interview, which allowed the

interviewer to focus more on the conversation and to probe deeper into topics of interest. Some open questions were used to obtain background information on how the students went about researching and assessing potential higher education institutions at which to study.

During the interview process, respondents were asked to complete a draft version of the survey questionnaire. Feedback and comments received from students after they completed the draft questionnaire and an examination of how they completed the questionnaire enabled identification of potential problems with the survey instrument. Questions that seemed to be poorly understood - perhaps due to poor phrasing of questions, use of inappropriate language or the provision of inappropriate options for responses - were identified by students giving inappropriate responses or skipping questions. Thus, face validity was assessed by confirming that the questionnaire appeared, to the students, to make sense. Also, patterns in the way students responded to the questions were identified. If, for example, everyone, or nearly everyone, had answered a question in the same way then the results would have been of little use as they could not have been effectively used to create a variable in the data analysis. In such a situation, these questions would have been eliminated from the questionnaire.

The questions asked during the pilot interviews focused on:

- Identifying the universities in the UAE with which students were familiar.
- Finding out how much research into different universities students had done.
- Finding out the methods used by students to gain information about universities and to make judgements about them.
- Finding out whether students perceived that they identified with any universities.

Using a checklist proposed by Bell (2005), the following questions were asked after students had completed the draft questionnaire:

1. Were the instructions understood?
2. Were any questions unclear?
3. Were there any questions that the respondent felt uncomfortable answering?
4. Was the layout clear and did the questions flow logically?
5. How long did the questionnaire take to complete?
6. Were there, in the respondent's opinion, any omissions or errors, or could they suggest any improvements?

The qualitative research approach adopted for the pilot study was effective in both obtaining feedback from interviewees for improvement of the survey instrument and for gaining more detailed background information on the student choice and decision-making

processes of high school students in the UAE. In particular, an insight was gained into the sources of information and influence that impacted upon students' formation and evaluation of branch campus images and the extent to which perceived attractive images and identification with specific institutions might impact upon attachment/membership intentions, (i.e., the institutions to which the students intended to apply). Although the interviews were structured, the interviewees were allowed considerable freedom to express their experiences, opinions and attitudes. A quantitative research approach would have been unable to yield the rich data obtained.

While the researcher aimed to remain objective and independent during both data collection and data analysis, it is impossible for a researcher to completely detach themselves from the research process in this type of qualitative research (Grimshaw and Sears, 2008), and although the words of the respondents have been quoted verbatim, the interpretation of these words and the context in which they have been placed was determined by the researcher.

6.7.3 Full study survey

6.7.3.1 Rationale for survey approach

The survey involved a self-completed questionnaire administered to year 12 and 13 high school students in the UAE. The questionnaire was distributed as hard copies, as initial communications with school managers revealed that many students would not have access to a computer at the times it was most convenient for students to complete the questionnaire. Potential advantages of the self-completed questionnaire include (1) it is convenient for respondents, as they can choose when they complete it and at what speed they complete it; (2) interviewer effects are avoided, such as characteristics of the interviewer that might influence respondents; (3) interviewer variability is avoided – for example, interviewers asking questions in a different way; and (4) self-completed questionnaires are relatively cheap and quick to administer. Also, self-completed questionnaires can be administered to large samples; due to time and cost constraints, it would not have been practical for a sole doctoral researcher to conduct 400 face-to-face interviews with students in the UAE.

Questionnaires are suitable for explanatory research as closed questions are more likely to be used rather than open-ended questions (Saunders et al. 2009). The questionnaire yielded details of students' attitudes, perceptions and actions, and it enabled relationships between variables to be explored and explained. The pilot study had already provided information that

enabled a deeper understanding of students' attitudes, perceptions and actions, and so the pilot and full studies were complementary.

No data collection method is without disadvantages and potential drawbacks of the self-completed questionnaire are recognised and their negative effects were planned for as best possible. Questionnaires should not be too long as respondents may be put off from starting them in the first place or give up before finishing due to respondent fatigue. This limits the amount of data that a questionnaire can generate. However, it was hoped that once school managements agreed to participate in the survey that they would make it a school requirement for students to complete the questionnaires, or at least actively encourage students to do so.

The lack of open questions prevents a deeper understanding of the respondents' answers and it is not possible for the researcher to probe for elaboration as in face-to-face interviews. The absence of involvement of the researcher means that help could not be offered to respondents if they had difficulty understanding instructions, questions or given options. As a result, there was a greater risk that students would skip questions, creating the problem of missing data. The briefing sheet provided for teachers administering the questionnaire was intended however to overcome the problems of students not understanding the questions or having any other queries.

Care was taken in the design of the questionnaire to ensure that it looked attractive, that the instructions and questions were clear, that appropriate language and terminology was used (e.g., not using specialised terms such as 'image' and 'identification') and that the questions flowed logically. Feedback given by respondents in the pilot study enabled potential problems to be identified and dealt with prior to the full study.

As students completed hard copies of the questionnaire, it is possible that respondents read the whole questionnaire before answering the first question. If this occurred, none of the questions answered were truly independent of the others. It also means that the researcher cannot be sure that questions were answered in the correct or intended order. Questionnaires take a lot of pre-planning. However careful the researcher, there is always the risk that they omit questions or possible options for responses that would have yielded useful data. It is expected however that the pilot study minimised the effects of this problem.

6.7.3.2 Final questionnaire design

Specific design features were incorporated into the final questionnaire based on student feedback and performance in completing the questionnaire in the pilot study and on the author's learned experiences in another previous quantitative research project (Wilkins et al. 2012).

This is the list of actions/checklist used to assess the questionnaire's design prior administering the final version:

- (i) Make clear at the start of the questionnaire that the survey is about branch campuses in the UAE and provide suitable definitions.
- (ii) Throughout the questionnaire, use language that will be understood by the respondents rather than academic language, e.g., the term 'overall impression' was used to refer to institutional image.
- (iii) Use as few words as possible to keep the questionnaire as short and sharp as possible.
- (iv) Include a label for each point on the seven-point rating scales (and not just the extremes) so that each respondent will have a more similar interpretation of the meaning of each point (the final scale descriptions were based on Saunders et al. 2009).
- (v) Include a number of reverse coded questions to (1) encourage students to concentrate and stay focused (2) allow the researcher to assess respondent reliability. The number of reverse-coded questions should not be so large however to annoy or unnecessarily distract respondents.
- (vi) Repeat the numbers of the seven-point rating scale for each question across each row and ask students to circle the numbers. This made it easier for the students to record their answers and it was easier for the researcher to input the results into a spreadsheet. In the questionnaire used in Wilkins et al. (2012), when respondents provided tick responses, it was often not possible to see the number under the tick. (See Figure 5 for an extract of the questionnaire).
- (vii) In the rows where respondents provide their answers, use shading (on/off) across every three rows. This made it easier for respondents to avoid jumping or missing a line, and inputting of data was also easier. (See Figure 5 for an extract of the questionnaire).

- (viii) Number pages x of y at the bottom of each page, to help respondents not miss any pages and to encourage respondents to continue to the end of the questionnaire.
- (ix) At the end of the questionnaire, remind respondents that they should have answered all questions but not provided more than one response for any single question.

The students who participated in the pilot study were helpful in providing feedback that enabled improvement in the phrasing of several questions. A number of interviewees mentioned that they found it difficult to classify their parent's (father's) occupation (examples included business owner and consultant), but none of the interviewees could suggest alternative descriptions that would allow coding for quantitative analysis, so the question remained unchanged.

		1 Strongly disagree	2 Mostly disagree	3 Slightly disagree	4 Neutral or don't know	5 Slightly agree	6 Mostly agree	7 Strongly agree
67	I think about this university a lot	1	2	3	4	5	6	7
68	I like that this university is very important to the UAE	1	2	3	4	5	6	7
69	I like that this uni. has many outstanding features	1	2	3	4	5	6	7
70	I think I would fit in at this university	1	2	3	4	5	6	7
71	This university and I share similar values	1	2	3	4	5	6	7
72	I think I would not be happy studying at this uni.	1	2	3	4	5	6	7
73	Studying here would be an indicator of my success	1	2	3	4	5	6	7

Figure 5. Extract of the final survey instrument.

As another example of feedback provided by the students, it was pointed out that 'university open days' could be interpreted in different ways, i.e., was it the university having open days that influenced students or was it students' experiences at the open days that influenced them? It was decided in the end to have two questions: 'information gained at university open days' (question 18) and 'my experience at a university open day' (question 34). Some interviewees found it difficult to answer questions to which they didn't know any relevant 'facts', e.g., 'this university is well managed' (question 50). When pressed, all students said that they were prepared to provide an answer to this question based on the university's reputation and/or information they had gained through personal relationships and/or the media. Two interviewees remarked that they would not feel comfortable answering any

questions about institutional management or policy that were more specialised, e.g., environmental policy or performance.

The final survey questionnaire is provided in Appendix 2.

6.7.3.3 Administration of the questionnaire

Initial contact with schools was made through the Head or Principal, who then typically nominated a specific person in the school to supervise administration of the survey. Schools were sent the questionnaires by mail and were asked to return the completed questionnaires by courier within four weeks. Two schools offered to print the questionnaires themselves from an emailed version. The contact person at each school received a courtesy phone call after two weeks to ensure that the school was not experiencing any problems with administration of the questionnaire. The cost of return postage by courier was refunded to the schools.

Virtually all high schools have a weekly period when students meet for an extended period with their form/personal tutor. These sessions are typically used for general student developmental activity and the provision of advice and guidance on a range of matters including the student's role in society, health issues, careers and higher education. Most schools made the survey questionnaire available to students during this weekly tutorial period. Two schools, and some teachers, allowed the students to complete the questionnaire at home, but it was not possible to identify these questionnaires. The schools decided on the days and times at which the questionnaire would be administered. A briefing sheet with instructions for teachers was provided (see Appendix 3).

6.8 Data analysis

The pilot interviews were voice recorded and not transcribed in a full-verbatim version. The purpose of the interviews was to validate the draft questionnaire design and to obtain ideas for its improvement. The interviewer made brief notes during each interview about the main points that arose. The recording of each interview was later listened to at least twice and each interview was summarised onto a transcript sheet. These transcript sheets enhanced the researcher's understanding of the issues under consideration and they provided a useful source of reference throughout the research process. For example, this made it easier to locate specific quotes made by students that were suitable for inclusion in this thesis.

A variety of quantitative techniques were used to analyse the data resulting from the full survey. Exploratory factor analysis was used to identify the main influences on university image formation and the criteria used to evaluate image attractiveness. The hypotheses and

associated research questions were analysed using correlation analysis, ANOVA (analysis of variance), MANOVA (multivariate analysis of variance) and regression analysis. In addition, the descriptive statistics shed considerable light on the analysis. These are the techniques used in the literature by researchers working with the image construct in a higher education or service business context (e.g., Williams and Moffitt 1997; Kazoleas et al. 2001; Arpan et al. 2003; Pampaloni 2010). Some of these techniques were also used to analyse the data relating to the organisational identification hypotheses and research questions.

An examination of the literature revealed that a commonly used method to evaluate models that incorporate organisational identification as a construct (sometimes with and sometimes without organisational image included as another variable) is structural equation modelling (SEM), using either AMOS or LISREL (e.g., Hong and Yang 2009; Kim et al. 2010; Cho and Treadway 2011). A structural model that incorporates the hypothesised causal relationships between perceived institutional attractiveness, student-university identification and students' behavioural intentions was developed and tested.

6.9 Ethical considerations

Research ethics are concerned with the researcher's behaviour in relation to the rights of those who become the subject of a research project, or those who are affected by it (Saunders et al. 2009, p. 600). Ethical issues and considerations have become a major interest and concern in management and education research. The nature of social research, and educational research in particular, can often be sensitive given that aspects of people's lives, often young people, are investigated (Baker 1999, p. 430). In order to protect both the researched and the researcher, the study – including the pilot and the final survey – were planned and administered to comply with the ethical guidelines of the British Educational Research Association (BERA 2011) and the Institutional Code of Ethics of the University of Bath. The research has been designed to be both methodologically sound and morally defensible to all those who are involved in it or who may be affected by it, including users of the end results. Social norms dictate to a large extent what might be considered morally defensible behaviour. For this research, social norms in both the UK and UAE were considered, as well as regulations and legislation in each country.

The questions asked in the questionnaire and those that were asked in the face-to-face interviews of the pilot study were designed without any researcher bias or coercion from other parties; they were devised solely to answer the research questions and to test the hypotheses in the most effective way possible. In summary, the questionnaire was designed to be fit for purpose. Participants in the pilot study were volunteers. A consent form was prepared that

needed to be signed by the student and their parent or guardian. The form gave information about the purpose of the research, how the interview was to be organised (including the fact that the interview would be audio recorded), how the results would be used and details about the researcher. It was anticipated that Muslim parents in particular might not give permission for their daughters to be alone in a room with an unknown male, which, should this have happened, would have presented an unavoidable bias in the results. To avoid this problem, the researcher arranged to have at least two students in the interview room at all times. No problems with parents (or teachers) were reported or encountered.

Although, it was expected that participants in the full survey would be participating voluntarily, in practice it was recognised that schools might present the questionnaire as a requirement of the student's tutorial programme. However, the guidelines provided to teachers asked the teachers to inform students that they had the right to decline to take part in the survey, the right to not answer specific questions and the right to withdraw at any time. Students were informed about the purpose of the research and about how the results would be used.

All schools have their own ethical policies, designed specifically to protect children under the age of 19, and the questionnaire was designed and administered in a way that satisfied the requirements of these policies. Students completed the survey questionnaire anonymously and with the assurance of confidentiality. The questionnaire presented no risk to the health or safety of respondents, nor should it have caused embarrassment, stress, discomfort or harm of any other kind. Schools participating in the survey were assured of anonymity and confidentiality although some schools actually asked to be mentioned in published papers.

Data obtained through both the pilot study and the survey questionnaire is stored securely and was used only for the purpose of answering the study's research questions and testing its hypotheses. As the research generated some personal data, this data is stored and handled in accordance with the requirements of the Data Protection Act 1998. The researcher processed, analysed and interpreted the data with care, honesty and integrity and without coercion from any other party. Results of the research have been presented in an open and honest way, with no deception or bias. A summary of the key findings has been presented to participating schools (and students), who were thanked for their participation and contribution.

Chapter 7 Results

7.1 Pilot study

The purpose of the pilot study was (1) to trial the draft questionnaire and obtain feedback and suggestions from the respondents for its improvement, and (2) to gain background information that would promote a better understanding of the student choice and decision-making processes of high school students in the UAE. Of particular interest were sources of information and influence that influenced students' construction and evaluation of branch campus images and the extent to which perceived attractive images and identification with specific institutions might influence attachment/membership intentions, i.e., the institutions to which the students intended to apply. The process of testing the draft questionnaire and the outcomes/improvements to the questionnaire resulting from the respondents' feedback were already described in Section 6.7.1, so this section shall discuss and analyse only the results relating to student choice and decision-making.

Appendix 4 provides a summary of interviewees' profiles and it provides the following information: school attended; sex; nationality; year of study; curriculum followed; subject to be studied in higher education; preferred country for higher education; and first choice institution (if decided). Four schools participated in the pilot study, which are referred to as school A, B, C and D (in random order). Every respondent at each school was allocated a reference number between 1 and 6. So, interviewee A1 refers to student 1 at school A, B2 refers to student 2 at school B, and so on.

The questionnaire provided the following information: 74% of the respondents felt that they were most likely to undertake their higher education outside the UAE, while the remaining 26% thought they were most likely to stay in the UAE. Five of the six students wanting or expecting to remain in the UAE for their higher education were citizens of countries located in the Middle East or North Africa. Interestingly, the two female UAE nationals both expected to undertake their higher education in the UAE, while each of the two male UAE nationals expected to graduate overseas (both in the UK). All UAE nationals reported that it was a cultural norm for Emirati parents to expect their daughters to remain in the UAE for undergraduate study.

All of the year 13 students (those in their final year of high school) had already submitted their higher education applications. All students reported having undertaken a systematic process of information gathering and institution evaluation, and for those intending to study outside the UAE, also country evaluation. Every student had relied on information provided on

university websites and 91% of the students reported that they had used institutional prospectuses/viewbooks. Many of the prospectuses/viewbooks were acquired at higher education fairs/conferences/exhibitions held in the UAE. *Every* student who intended to study outside the UAE had consulted university rankings to assess the quality and reputations of individual institutions, and the students generally seemed very concerned about the status and reputation of institutions. All students relied on accessing rankings online but three students also mentioned using books such as *The Times Good University Guide*. Of the students intending to undertake their higher education in the UAE, every student mentioned having relied on word of mouth from family or friends, and to a lesser extent from teachers and higher education advisers, in evaluating different institutions.

Several factors were found to be very influential in determining students' choices. The following factors received scores of between 5 (to a large extent) and 7 (to an extremely large extent) from at least 90% of respondents: information on university websites, information in university prospectuses/viewbooks, university holds international accreditations, information gained at university open days, my experience at a university open day and level of tuition fees. Nine students said that they made their final choice of institution after having attended an open day or after having visited the institution's campus. Several students mentioned how their families had supported campus visits, for example by incorporating them into family holidays.

At least a quarter of the respondents had very poor awareness and knowledge of different higher education institutions in the UAE, and, overall, there was a lack of consensus as to which were the top universities in the UAE. The students might have had difficulty assessing local institutions because there exists no published ranking of universities in the UAE, and students who know that they will definitely be undertaking their higher education outside the UAE may not bother paying attention to the local institutions. However, students who intended to stay in the UAE also mentioned that there was a lack of publicly available independent information about local universities.

In some schools, especially in high performing schools where students achieve high examination grades, it is the norm for students to seek entry into high quality universities outside the UAE. One respondent reported:

I don't know anyone in our year who is going to stay in the UAE to study. Most people do go abroad, and mostly it's the UK and US.... About seventy per cent go to the UK and the rest, the thirty per cent, go to the US.... And a few go to other places, like last year a girl went to Prague to do medicine.
(D5)

Of the 139 students who graduated from the American School of Dubai (a school that did not participate in the pilot study or final survey) in 2010 and 2011, only three stayed in the UAE for their higher education (American School of Dubai, 2011).

In answering which was the top university in the UAE, students were allowed to choose more than one institution. The universities most frequently chosen were American University of Sharjah (mentioned 8 times), New York University Abu Dhabi (4), Heriot-Watt University Dubai (3), American University in Dubai (2) and University of Wollongong in Dubai (2). Three of these institutions are international branch campuses (New York University Abu Dhabi; Heriot-Watt University Dubai; and University of Wollongong in Dubai). Students were also asked which university they thought was the worst in the UAE. Interestingly, three of the institutions mentioned as the best were also mentioned by other students as the worst. Four respondents felt unable to name a top university in the UAE. This fact suggests that some students find it difficult to construct images of local branch campuses which they consider accurate enough to enable evaluation and comparison of different institutions.

In judging local institutions, word of mouth from relatives or friends who had first-hand experience of study in the UAE was highly influential in shaping the images of institutions held by students. For example, when naming the worst (or a poor) university in the UAE, five students referred to specific grievances that someone they knew had or to someone they knew who had dropped out or transferred from one institution to another.

Many students demonstrated a sense of belonging with their passport country and they seemed to think it the natural decision to return there for their higher education. In fact, seven of the eight UK nationals preferred or expected to graduate in the UK. Even the one student who preferred to stay in the UAE realistically expected to return to the UK due to the high level of competition for places at her chosen UAE university (New York University Abu Dhabi). Several students wanted to return to the place they regard as home:

It's my home basically. I was born in England and lived there for the first seven years, and then I've been out and about, around the rest of the world, so I guess I look as England as home. (B5)

No student specifically mentioned the need to return to their passport country for fear of losing their sense of belonging with their 'home' country or the increased likelihood of reverse culture shock if returning was delayed for several more years. Reverse culture shock, whereby a returner feels like a foreigner in his or her passport country, has been well documented in the research on internationally mobile children/third culture kids (e.g., Downie, 1976; Bell, 1997;

Pollock and Van Reken, 2001; Fail et al., 2004). Uehara (1986) found that the older the returnees and the longer their stay abroad, the more they worried about re-entry and the greater the problems.

One student planned to go to the UK for her higher education because she wanted to settle in the UK permanently:

I will study in the UK because of family and it's where I want to live. (D4)

Another student mentioned that having undertaken a British curriculum secondary education, she felt it logical to stick with the British system:

I grew up always in English schools, in the British system, so I would like to see, you could say, the homeland of the schools I was educated in, and I always wanted to go to England to be honest, or the UK in general.... Scotland, Ireland. (A5)

Some 87% of the students graduating at the American School of Dubai in 2010 or 2011 went to either the United States or Canada for their higher education (American School of Dubai, 2011).

English is the most common language of instruction in international schools, so it is not surprising that many students are drawn to undertaking their higher education in a country where English is the native language. Some authors claim that English as an international language is displacing home languages and threatening the cultural identities associated with other languages (Grimshaw and Sears, 2008). In fact, the Anglophone Western culture in international schools is seen by many as evidence of the persistence of colonial ideologies in the sector (Grimshaw, 2007).

Some students are forced to leave the UAE because the subject they want to study is not available in the country:

No institution in the UAE offers what I would like to do [music theory].... so I am looking at the Royal College and Royal Academy of Music [in the UK]. (B2)

Financial considerations are a key consideration for many students, including the level of tuition fees, the cost of accommodation and general costs of living:

I prefer to go to Scotland as I get it [higher education] for free. (A1)

I wanted to go to the US because the women's football is good, but it would be too expensive and I don't have any family out there. (D5)

At AUS [American University of Sharjah, UAE] I will stay with my family and not have the complication of moving abroad and living away from them. (C5)

We've got a house in Birmingham [UK], where I grew up, so I might as well live there rather than paying extra for halls. (A2)

Several students mentioned applying for scholarships or bursaries, but no respondent mentioned student loans. It seems that the majority of students expect their parents to pay all or a substantial part of the costs of their higher education. It was not surprising therefore that parents gave advice on financial issues:

I was thinking about going to Canada and my parents were like, "are you sure? Think about money and accommodation, and everything", so I kind of thought that through as well. (A2)

They [parents] don't really want me to go to NYU [in Abu Dhabi], and also it's really expensive. (B3)

There was evidence that some students were strongly influenced by their parents' preferences and opinions, for example:

This is the first time someone in my family is staying in the UAE for higher education and a big part of Middlesex [a university in Dubai] is that in the third year you have the chance of branching out to England and graduating there. That's a big deal really, because my parents want me to graduate in England, but they feel that I would be a lot more comfortable for the first couple of years if I stayed in Dubai. (B4)

The literature review on global nomads/third culture kids (in Section 2.6) found that expatriate families are often stronger and more cohesive, and that siblings are often closer. Of the 17 students who planned to leave the UAE, 13 specifically mentioned that they would be living with a family member(s) or that they had family living in the same city, region or part of the country where they intended to study. Having family living nearby was clearly important to most students:

My older brother lives there and he has his own flat, and so the plan is I will go back to Aberdeen and stay with him and go to university there. (A1)

My brother goes to Queen Mary [university in UK] for Law, so it's a good reference point. I think I will live with my brother when I am in London. My parents will stay in Dubai but I have got quite a lot of extended family in London. (B5)

However, one respondent put adventure before family:

I have never lived in the UK so I'd like to get the UK experience. My extended family is all in France.... Since France is quite close, I can take the ferry and go home time to time. (A5)

Among many Middle Eastern and South Asian cultures, parents are often very protective towards their daughters. All four UAE nationals participating in the survey confirmed that UAE national girls, as well as girls from other Middle Eastern countries, virtually never go overseas alone for undergraduate higher education:

It's my family. It's not about me, because I am their only girl and they want me to stay here. (C3)

[About choice of university] I think it's like sixty per cent my decision.... Say I said I wanted to live in America or something, they [parents] might say I'm not ready yet. But they have said stuff like for higher education [meaning postgraduate education], maybe a master's degree, they would consider me going outside the UAE.... Yes, the forty per cent is my parents saying they would like me to stay in the UAE for my first degree and the sixty per cent is me being able to pick whichever university [in the UAE] I like. (C1)

Several students made comparisons between American and British higher education, for example:

When people come back with a degree from the US how people react to it, say compared to the UK. People think that if you've been in the US your degree is better than other countries. (C2)

It wouldn't be as expensive [going to the UK] than if I was to look at American universities. It's relatively lower priced [in the UK]. (A5)

I think the university environment in the UK would be better because, I guess, for me, I'd like a more, more educational environment and what I perceive of the US is slightly less. (B5)

I like the education system in the US. I like the fact that courses are four years but they give you two years to decide what specific course you want to take. (D3)

In the US, you declare your concentration in the second year, whilst in the UK, if you do Economics and History, all you end up doing is Economics and History. In the US, my ideal combination would be Economics and Religion, which you wouldn't find anywhere else. I love the way the curriculum [in the US] is broad and you can try everything. (D6)

Each of the four students who would like to undertake their higher education in the United States mentioned the advantages of a flexible and/or broad curriculum and the opportunity to delay choosing a specialism.

Several of the students clearly enjoy the expatriate lifestyle and intend to remain internationally mobile in their adult lives or to return after their higher education to the Middle East. These students made higher education choices that fit with their future plans:

My first two choices are in Birmingham [UK], to study Primary School Education.... I'm French and grew up in England so I've been an expat there, but I like travelling. So, working in international schools I can get to travel the world and see different places, at the same time as doing what I want to do. (A2)

I would love to work in London first for at least a couple of years, but then, looking at the long term, somewhere in the Middle East would be nice.... I spent a lot of time there and liked the atmosphere. (B5)

Every student who intended to take their undergraduate degree at an institution outside the UAE mentioned the importance of quality of education and/or the prestige/reputation of institutions. Each of these students used the Internet to research different countries and/or institutions and every student referred to institutional and/or subject rankings. Among the students planning to study in the UK, *The Guardian's* ranking was the one mentioned most often. *The Times* ranking is widely accepted as the leading undergraduate ranking in the UK (Wilkins and Huisman, 2012), but since June 2010 *The Times* has charged for its online content, meaning that its university rankings are no longer publicly available online without payment. This explains the increased popularity of *The Guardian's* ranking. Also, it was not surprising, given their multicultural upbringing, that several students mentioned the attraction of locations or institutions with diverse populations:

[Talking about the attractions of New York University Abu Dhabi] I like the multiculturalism, wanting to be around a variety of people.... It's prestigious. It attracts the top students from around the world. (B3)

With the absence of university rankings and independently published quality data, each of the students intending to study at a university in the UAE mentioned the value of receiving word of mouth from friends and family who had first-hand experiences of a particular institution:

I have been in contact with many people who have been to these universities [in the UAE] and they know the standards, so in my discussions with them I get a good insight about their standards. (C5)

Virtually every respondent had been to at least one education fair/conference/exhibition in the UAE – either with their school or with their parents – which was attended by representatives of foreign (and local) universities, including some of the world's elite institutions. Some 87% of the respondents had been to at least one institutional open day or had visited at least one campus (including all the students intending to study outside the UAE). Some students were interested in personal safety, social life or attractiveness of the town/campus.

[Talking about a visit to Birmingham, UK] I would judge it [the university] on the area it's in, like see if it's in a rough neighbourhood, then I wouldn't really want to live there.... I don't want to be going home from university having the fear that I'm going to get stabbed or attacked or something.... I was also looking if there's anything to do there, 'cause I like going out and seeing friends so I don't want to be in the middle of nowhere; no, not exactly in the middle of nowhere, but not a university where there's not much around to do because I'd get bored really easily. So, I looked at different things to do in the area. (A2)

I like the surrounding about my university [Middlesex University Dubai]; I want it to be aesthetically pleasing if you will. I do like it. Knowledge Village is fairly new and so I think it's quite nice. Knowledge Village is also quite close to my house. (B4)

It is clear from the results of the pilot study interviews that an internationally mobile lifestyle affects children in many different ways and that the lifestyle also significantly influences their higher education choices. In summary, the pilot study found that the higher education choices of expatriate children were most influenced by their need or desire to return to the place regarded as home; to study in the country where they intend to settle permanently; to live with, or be close to, siblings or extended members of their family; to minimise tuition, accommodation and general living costs; and to study in the location where they will feel most comfortable. These are the factors that were mentioned most often and the ones that seemed to be emphasised most by the students. For students leaving the UAE, rankings and institutional reputation were key determinants of choice of institution.

Several students indicated that their parents and/or teachers had either advised/encouraged them to return to their passport country for higher education or simply assumed that this was the course of action they would take. As a result, most of these students did not bother researching local institutions in the UAE, including international branch campuses, which meant that the images they held of local institutions were not strong or distinct, or detailed enough to allow reasonable evaluation and comparison of institutions.

Students remaining in the UAE were far more likely to rely on word of mouth from family or friends, which was a significant influence on both institutional image construction and evaluation.

Of course, individual motivations, personalities and family situations impacted upon students' higher education choices. Some respondents planned to end their internationally mobile lifestyle and to settle in the country where they complete their higher education, while other respondents saw a good Western degree as their passport to a continued life as an internationally mobile citizen. All of the students who participated in the pilot study were articulate and confident, and seemed happy and well-balanced. It is likely however that a student who was unhappy or who was having problems would not have volunteered to be interviewed and neither would their school have nominated or invited them to participate in the study.

The pilot study has several limitations, which include its small sample size and convenience sampling strategy that involved respondents living only in a single country, and the fact that all of the schools offered either an English or other Western curriculum. That said, of the 138 private schools inspected by the Dubai Schools Inspection Bureau (DISB) in 2011-12, 88% offered an American, English, Indian, International Baccalaureate or private (UAE Ministry of Education) curriculum (Knowledge and Human Development Authority, 2012). It should also be noted that among most international schools in the UAE which follow an English curriculum, a high proportion of their students are not British, or even European. Furthermore, the vast majority of schools not offering Western or Indian curricula do not offer post-16 secondary education. So, for example, a child who attended a Philippine school in the UAE until the age of 16 would typically transfer to another international school (in the UAE) that offers a Western (UK/US) curriculum or return to the Philippines to complete their secondary education.

7.2 Full survey sample

A convenience approach was used to find schools that were willing to participate in the final survey. Five international schools agreed to distribute the questionnaire to their students during an eight-week period, which started in the second half of March 2012 and ended in the first half of May 2012. None of the schools had participated in the pilot study, so there was no possibility of an individual respondent completing the questionnaire twice. The schools received 796 questionnaires for distribution (including two schools that printed the questionnaires themselves); 466 completed questionnaires were returned and 384 were

deemed usable, resulting in a usable response rate of 48.2%. Most of the unusable questionnaires either had whole sections with no answers or the respondent had clearly not completed the questionnaire conscientiously or with reasonable care; for example, a questionnaire having the same value for all responses.

The nationalities of the respondents were broadly representative of the expatriate population in the UAE: 53.9% were South Asian (mainly Indian and Pakistani); 14.3% European; 13.8% Middle Eastern; 7.3% African; 5.2% North American (US and Canada); and 5.5% 'other'. The sample comprised of 46.9% males and 53.1% females; 51.0% were in their penultimate year of secondary education, 49.0% were in their final year; 39.8% were following the CBSE Indian curriculum, 32.0% were taking the International Baccalaureate, 11.8% were following a UK curriculum (mainly A-levels), and 16.4% were following a US curriculum; 18.0% had already applied to at least one higher education institution, meaning 82.0% had not yet submitted any higher education applications; and 44.5% had not yet done any research on higher education institutions in the UAE.

It is assumed that the 44.5% of respondents who said they had not done any research on higher education institutions in the UAE had not in any way previously interacted with these institutions, e.g., through reading institutional literature, visiting university campuses or attending talks given by university staff. Of the 70 students who had already applied to specific universities, 18 (25.7%) intended to stay in the UAE, while 52 (74.3%) hoped to gain places at universities outside the UAE. The most popular destination countries for those planning to leave the UAE were the UK (46.2% of the 52 students), India (21.2%), the US (15.4%) and Canada (9.6%); the remaining 7.6% of students intended to study in countries such as Lebanon, New Zealand and Singapore.

The most popular disciplines for higher education study were professional subjects (such as accounting, architecture, business, information technology, law and media studies) and science/engineering subjects (particularly medicine and various types of engineering). Some 49.2% of the respondents intended to study a professional subject, while 33.6% planned to pursue a programme in the science/engineering field; 3.4% planned to study in the arts and humanities, 5.7% in the social sciences, and 8.1% were undecided.

The National Readership Survey (NRS) classification was used to categorise respondents according to socio-economic group membership. The NRS demographic classification system has six levels: grade A at the top, representing professionals and senior managerial staff (upper middle class); grade B for intermediate managers and senior administrative staff (middle class);

grade C1 for supervisory, administrative and junior management positions (lower middle class); grade C2 for skilled manual workers (skilled working class); grade D for semi-skilled and unskilled manual workers (working class); and grade E for those living at the lowest levels of subsistence.

Given the relatively high cost of tuition fees at international schools in the UAE (even though they are often paid by employers for workers who have been recruited from abroad), it is not surprising that 74.7% of respondents classified themselves as belonging to socio-economic groups A, B or C1, and only 6.2% classified themselves as C2 or D. Some 19.0% of respondents classified their parent's (main income earner in family) occupation as 'other'. From the pilot study it was found that many students found it difficult to classify their parent's occupation; for example, when their parents owned their own business or held positions such as engineer or consultant. Examples such as these should really be added to the A, B or C1 categories, so the 74.7% quoted above is probably an underestimation.

7.3 Data handling and management

Upon receipt of the completed questionnaires from the schools, a process of data cleaning was undertaken to eliminate from the dataset questionnaires that were incomplete, incorrect or inaccurate. Questionnaires were deemed unusable if:

- (1) five or more questions were unanswered in the whole questionnaire;
- (2) three or more pairs of responses seemed contradictory, e.g., if a score of 6 (mostly agree) was given for 'This university is/will be on my shortlist of universities to attend' (q. 90) and then followed by another score of 6 for 'I will *not* apply to this university'(q. 97);
- (3) all the questions in a section of the questionnaire were given the same score;
- (4) the scores given in a section(s) resulted in an obvious pattern being created, e.g., a perfectly formed zigzag across a whole page of the questionnaire.

In evaluating the usability of questionnaires, an attempt was made to 'get into the minds of respondents', to better understand their motives and attitudes. For example, it was recognised that a student might give high scores for image attractiveness and student-university identification but then low scores for supportive intentions for a variety of reasons, e.g., a student and their family were leaving the UAE and so the student had no interest in supporting local institutions, or a student 'rejected' a particular institution that they think highly of and with which they identify because the institution is an unrealistic option for the student due to high entrance standards or high tuition fees.

As stated in the previous section, the schools returned a total of 466 completed questionnaires, of which 384 were deemed usable. The data were initially recorded as a

spreadsheet using Microsoft Excel. Spreadsheets allow both quantitative and qualitative responses to be recorded. Schumacker and Lomax (2004, p. 25) identify various options for dealing with missing values:

- (1) Listwise – deleting cases with missing data on any variable.
- (2) Pairwise – deleting cases with missing data on only the two variables used.
- (3) Mean substitution – substituting the mean for missing values of a variable.
- (4) Regression imputation – substituting a predicted value for the missing value of a variable.
- (5) Maximum likelihood – finding expected values based on maximum likelihood parameter estimation.
- (6) Matching response pattern – matching variables with incomplete data to variables with complete data to determine a missing value.

These options can dramatically affect the number of cases available for analysis and the magnitude and direction of the correlation coefficient. The methods of listwise and pairwise deletion of cases are particularly vulnerable to large losses of cases, which can substantially reduce sample sizes. Mean substitution works best when a dataset has only a relatively small number of values missing. Given that the 384 usable questionnaires had only 60 missing values (from a possible 44,544 values – 384 respondents x 116 items per questionnaire), the mean substitution method appeared to be the most suitable method to use in terms of overall impact on values in the dataset and the speed and ease with which the process could be undertaken. Mean values were rounded up/down to the nearest whole number.

Appendix 5 shows the questions (and cases) that had missing values and the mean values substituted in the dataset. It appears that no one question was particularly problematical in terms of respondents not understanding or wanting to answer a particular question in that only two questions (q. 29, 'University staff visiting my school' and q. 35 'Personal communications with universities') had more than three missing values. These two questions were both concerned with potential sources of influence on university image formation. It is possible that students felt it inappropriate to answer these questions if they had not actually experienced university staff visiting their school or engaged in personal communications with universities.

Given the nature of some of the questions with missing values, it appears that respondents simply 'skipped a row' in error. Alternatively, a small number of respondents gave two responses to one question. In this case, the two values were deleted and substituted with their mean, and rounded up if necessary. For example, if a respondent had entered scores of 2 and

5 for a particular question, this would have resulted in a mean score of 3.5, which would have been rounded up and recorded as a score of 4.

It is recognised that SEM software programs offer more sophisticated methods of dealing with missing values (AMOS, for example, uses maximum likelihood estimation), but it was decided to use the mean substitution method given that the data set contained relatively few missing values and to allow consistency across all analyses in the research, enabling logical comparisons to be made between analyses at different stages of the research.

Excel's mathematical and statistical functions were used to reduce data input error, for example, by identifying coding errors where the numerical responses entered were outside the possible range. The spreadsheet that was created in Excel was easily transferred to SPSS for the more sophisticated statistical analyses. Regular backups of files and hard copies of results were made to avoid loss of data.

7.3.1 Exploratory factor analysis using SPSS

'Factor' is another name for an independent or predictor variable, but the term is also used synonymously with 'latent variable' in factor analysis (Field 2009, p. 786). Given that this research could not rely completely on existing scales, exploratory factor analysis was used to identify the components of latent variables. Exploratory factor analysis is a multivariate technique for identifying whether the correlations between a set of observed variables are driven by a common underlying variable (the latent construct). By identifying the strength of the association between variables, it is possible to define a smaller set of underlying dimensions.

In this research, factors were extracted using the principal components method – to identify the factors that explain the largest share of variance – with varimax rotation, which has the advantage of loading a smaller number of variables highly onto each factor, thus resulting in more interpretable clusters of factors. Factor analysis produces an eigenvalue for each variable and although it was planned to apply Kaiser's criterion (retaining factors with eigenvalues greater than one), the data was such that variables with scores above .70 had to be retained (as suggested by Jolliffe 1986). The number of variables exceeding the declared cut-value determines the number of factors in the model. Exploratory factor analysis does not provide a unique solution and the presence of a good fit between the model and data is not tested. Confirmatory factor analysis is used to assess model fit (which is explained in Section 8.7.2).

Several software packages exist for performing exploratory analysis, such as MPlus, R, SPSS and Stata. These packages do take different views on factor analysis; for example, SPSS emphasises similarities while MPlus more the differences (Klinke et al. 2010). SPSS is probably the most commonly used package used by researchers to perform basic statistical analysis (Field 2009). It is also taught to most doctoral students in the management and education fields and is readily available at most universities in Western countries. A major advantage of SPSS is that it looks and operates like Microsoft's Excel program, which most researchers are already familiar with. Thus, SPSS was chosen as the software for the exploratory factor analyses and preliminary data analysis because it was capable of effectively performing all of the analyses required, it was readily available at the institution where the research was conducted and it was already familiar to the researcher.

7.4 Sources of influence on university image formation among prospective higher education students

7.4.1 Sources of influence on university image formation (Research question 1)

Exploratory factor analysis using principal components with Varimax rotation was conducted (using SPSS version 19) to determine the underlying components of 33 potential sources of influence on the images formed by students of international branch campuses in the UAE. The Kaiser-Meyer-Olkin test produced a value of .875, far higher than the cut-off point of .70, thus indicating that the sample size of 384 was adequate. The Bartlett test of sphericity ($p = .000$) indicates that the data has a high enough degree of correlation between at least a number of variables, making it suitable for exploratory factor analysis. Using the criteria eigenvalue > 0.70 (deemed acceptable by Jolliffe 1986) and factor loading $> .45$, six factors were extracted, which accounted for 72.6% of total variance (Table 2).

The six factors were named *Interpersonal* (INT), *University controlled communications* (UCC), *Local campus features* (LCF), *Local branch features* (LBF), *Communications not controlled by university* (CNC) and *Home campus heritage and prestige* (HHP). Internal reliability of the factors was tested using Cronbach's alpha. The alpha values ranged from .65 to .86, indicating adequate consistency within each factor. Although Nunnally (1978) stipulated .70 as the minimum value to indicate adequate reliability, Janssens et al. (2008) claim that values above .60 can be considered a 'good' result, particularly in exploratory research. Furthermore, Cronbach's alpha is very sensitive to the number of items in a factor and thus works best when there are a minimum of three items (Janssens et al. 2008). In the case of factors with only two items, such as the CNC variable, alpha values above .60 can be acceptable (Iacobucci and Duhachek 2003).

Table 2. Factor loadings for sources of influence on the images of international branch campuses formed by potential students.

	INT	UCC	LCF	LBF	CNC	HHP
<i>INTERPERSONAL</i>						
Recommendations of parents/relatives	.874					
Recommendations of teachers	.814					
Feedback from current/past students	.758					
<i>UNIVERSITY CONTROLLED COMMUNICATIONS</i>						
University prospectuses/viewbooks and literature		.790				
University web sites		.774				
University open days		.693				
<i>LOCAL CAMPUS FEATURES</i>						
Attractiveness of UAE campus			.814			
Location of UAE campus			.755			
Sports and leisure facilities at UAE campus			.701			
<i>LOCAL BRANCH FEATURES</i>						
Level of tuition fees at UAE branch				.783		
Entry requirements at UAE branch				.773		
Range of courses offered at UAE branch				.677		
<i>COMMUNICATIONS NOT CONTROLLED BY UNIVERSITY</i>						
Government inspection reports					.782	
Social media and internet blogs					.751	
<i>HOME CAMPUS HERITAGE AND PRESTIGE</i>						
Historic campus in home country						.830
Home campus has educated Nobel Prize winners						.743
<i>Eigenvalue</i>	5.82	1.32	1.25	1.13	0.98	0.89
<i>Variance (%)</i>	36.38	8.23	7.80	7.09	6.13	5.57
<i>Cumulative variance (%)</i>	36.38	44.61	52.41	59.50	65.63	71.20
<i>Cronbach's alpha</i>	.86	.74	.74	.74	.65	.70

The results indicate that the factor that has the greatest influence on the images of international branch campuses formed by potential students is *Interpersonal*, i.e., recommendations and feedback resulting from personal relationships, which explains 36.4% of total variance. *University controlled communications* (university prospectuses/viewbooks and literature; university web sites; and university open days) are the second greatest influence, explaining 8.2% of variance. Interestingly, the image formed of a branch campus in the UAE is affected not only by a range of factors related to the local branch (e.g. features of the campus, level of tuition fees and entry requirements), which explained 14.89% of total variance (LCF + LBF), but also by aspects of the home campus image and performance (e.g. whether the institution is old and has a historic campus, and whether it has educated Nobel Prize winners), which explained 6.31% of total variance (HHP). Performance indicators such as educating Nobel Prize winners might be used by potential students as indicators of prestige and education quality. Institutional rankings (based on home campuses, since international branch campuses are rarely included in league tables) appeared to have considerable influence on the images of international branch campuses formed by students, but the rankings variable was

omitted from the final component matrix because it correlated strongly with items in different factors.

In summary, the survey results support the findings of Kazoleas et al. 2001; Mazzarol and Soutar 2002; Shanka et al. 2005; Gatfield and Chen 2006; Padlee et al. 2010; Simões and Soares 2010; Wilkins and Epps 2011; Wilkins and Huisman 2011a; and Sojkin et al. 2012, who all concluded that personal relationships and recommendations are very influential in determining a student's choice of institution (and/or country) for higher education. In the pilot study, students explained their reliance on interpersonal sources, particularly on parents and relatives, as a social norm in their cultures (53.9% of respondents were nationals of countries in South Asia and 13.8% of Middle Eastern countries). The distinctive and different family expectations and upbringing of boys and girls among certain ethnic and religious groups commonly found in the UAE might explain the significant cultural differences found between males and females.

Hence, part of the explanation for the importance of interpersonal sources goes back to cultural factors. In addition, the fact that reliable and independent data on international branch campuses are lacking, explains the reliance on interpersonal sources. Although the quality assurance agencies in the UAE have for some time made publicly available details of primary and secondary school inspections and audits undertaken, comparable information for international branch campuses has not been put into the public domain. However, organisations such as the Commission for Academic Accreditation (CAA), the Knowledge and Human Development Authority (KHDA) and the University Quality Assurance International Board (UQAIB) have recently begun to make more information publicly available.

The explanation building on cultural factors needs elaboration, which can be done by considering the socio-economic dimension, since 97.9% of the respondents in our sample came from expatriate families. Expatriate families uproot themselves from extended families, old friends, and other key support people in their home communities, so that what usually remains when they are living abroad is a smaller family unit consisting of only parents and children. As a result, expatriate families are often stronger and more cohesive, and children depend much more on their parents and siblings to meet their physical, emotional and social needs (McLachlan 2007). This is another fact that explains why in our survey even children from countries in Europe and North America were influenced heavily by recommendations from their parents. Also, the fact that these children do not usually have extended family living nearby might explain why recommendations from teachers were more influential than has been found in other studies (e.g. Chen 2007; Wilkins and Huisman 2011a). A further

elaboration is that the influential factors do not relate solely to the family context. Feedback from current and past students is another item in the *Interpersonal* component. Feedback from current students and alumni allow elucidation and might enable students to feel that they are minimising the risks associated with choosing a higher education institution.

7.4.2. *The ability of prospective students to form distinct images of university branch campuses (Hypotheses 1-3)*

The information sources used most often by prospective students are the Internet (university web sites and forums), brochures and literature produced by universities, and the recommendations of friends and current or former students of universities (Simões and Soares 2010; Sojkin, Bartkowiak, and Skuza 2012). Thus, a student's ability to form distinct images of university branch campuses that he/she perceives as accurate is hypothesised to be positively associated with reliance on university controlled communications (Hypothesis 1) and interpersonal relationships (Hypothesis 2) as sources of information.

As higher education can be life changing, and needs considerable commitment in terms of time, prospective students require adequate information to make a well-informed decision (Briggs 2006; Simões and Soares 2010). Parents, teachers and higher education advisers generally encourage students to plan and conduct a systematic information search. Students need sufficient information to enable them to form distinct images of the different institutions, so that they can make informed choices (Menon 2004), thus it is hypothesised that a student's ability to form distinct images of university branch campuses that he/she perceives as accurate is positively associated with the amount of information they obtain, i.e., the amount of research they have done (Hypothesis 3).

The variables were operationalised as follows:

The independent variables

(i) University controlled communications as a source of information (UCC)

Q16 Information on university web sites

Q17 University prospectuses/viewbooks and literature

Q18 Information gained at university open days

(Cronbach's alpha = .74)

(ii) Interpersonal relationships as a source of information (INT)

Q21 Feedback from current/past students

Q22 Recommendations of parents/relatives

Q23 Recommendations of teachers

(Cronbach's alpha = .86)

(iii) Research done by student (RES)

Q111 I have previously done some research on this university

Dependent variable

(i) Ability to form distinct images (DIM)

Q113 My views about this university are strong

Q114 I am confident about the accuracy of my perceptions

Q115 My feelings about this university are not strong (reverse coded)

Q116 My overall impression of this university is clear

(Cronbach's alpha = .89)

The variable DIM had a mean score of 4.66 with a standard deviation of 1.41, and a mode of 5. Some 66.7% of respondents (mean scores above 4) believed that they were able to form a distinct image of a UAE branch campus, which they believed was accurate. Respondents who were unable to construct a distinct image of a UAE branch campus were probably intending to undertake their higher education outside the UAE or were not intending to enter higher education, or they were year 12 students who had not yet started thinking seriously about their higher education options. Of the 52 students who intended to undertake their higher education outside the UAE, 24 (46.2%) did not hold a distinct image of a single UAE branch campus. It is clear that these students neither researched UAE branch campuses nor even paid attention to information about them available in the public domain, e.g., in the media or information available through interpersonal sources.

The hypotheses were tested using bivariate correlation analysis (Pearson's correlation coefficient). In order to establish whether the correlation coefficient is significant, the sampling distributions should be normally distributed (Field 2009, p. 177). Although the Kolmogorov-Smirnov test for each variable was significant ($p < .05$), indicating deviation from normality, given the large sample size this was not considered problematical. Furthermore, visual examination of the distribution plots revealed that they looked fairly similar to a normal distribution. Table 3 provides the results of the correlation analyses and a summary of hypotheses validation. All of the hypotheses are directional, so the tests are one-tailed. The table shows the results of Pearson's correlation coefficient tests but it was found that the Spearman's correlation coefficient test, which is suitable for non-parametric data, yielded almost identical results.

Table 3. Correlation results and hypotheses validation: Sources of influence on university image construction by prospective students.

H	Hypothesis	<i>r</i>	<i>P</i> (1-tailed)	Hypothesis supported?
H1	University controlled communications	.237	.000	Yes
H2	Interpersonal relationships	.131	.005	Yes
H3	Research done by student	.443	.000	Yes

The results of the correlation analyses indicate significant positive relationships between a student's ability to form distinct images of university branch campuses that he/she perceives as accurate and his/her reliance on university controlled communications ($r = .24, p < .001$) and interpersonal relationships ($r = .13, p < .01$), and the amount of research he/she has done ($r = .44, p < .001$). The relationship between amount of research done and ability to form distinct images is relatively strong. However, according to Connolly (2007, p. 216), although a statistical relationship is detectable between reliance on university controlled communications and reliance on interpersonal relationships with ability to form distinct images, in reality the relationship is barely visible and therefore negligible in practical terms.

The implication of the findings is that, as sole sources of information/influence, university controlled communications and interpersonal relations both have only a very moderate effect on the institutional images constructed by students. In contrast, the relationship between the amount of research a student has done and his/her ability to form distinct images is much stronger and implies that in order to make reasoned judgements and choices students need to spend time and effort researching their higher education options using multiple sources of information. Students committed to undertaking their higher education outside the UAE are far more likely to have spent little or no time researching local branch campuses and this is reflected in the fact that 46.2% of such students among our respondents were unable to form even one distinct branch campus image that they believed was accurate. This finding supports the claim that in order to make suitable choices prospective higher education students should obtain relevant information about different institutions using a range of information sources.

Given that previous research has found that individual factors, such as sex and nationality, impact upon preferred information sources (e.g., Chen 2008; Wilkins and Huisman 2011a), it was decided to examine a number of such relationships. To investigate whether the impacts of different sources of information and influence on university image formation differ between males and females, students of different nationality and socio-economic background, and students intending to study different types of subjects, one-way between-groups multivariate analysis of variance was performed. The assumptions associated with conducting MANOVA

were confirmed, e.g., Box's test (.454) indicated homogeneity of covariance matrices and non-significant Levene's tests indicated homogeneity of error variances. On the combined dependent variables comprising the six components, there appears a statistically significant difference between males and females [$F(6, 377) = 4.89, p < .001, \text{Wilks' } \lambda = .928$]. The remaining tests all yielded non-significant results.

Univariate analysis of variance was performed as post-hoc analysis. It was found that statistically significant differences between males and females existed for the following factors: *Interpersonal* at the .001 level of significance, and *University controlled communications* and *Local branch features* at the .05 level. For each of the factors, females tended to award higher scores than males, except for *Local campus features* (Males: mean = 4.53, SD = 1.30; Females: mean = 4.32, SD = 1.24). Further analysis revealed a significant difference at the .05 level between students intending to study different types of subjects and *Local campus features*.

7.5 Student evaluation of university image attractiveness

7.5.1 Criteria used by prospective higher education students in the UAE to evaluate the images they hold of international branch campuses (Research question 2)

Exploratory factor analysis using principal components with Varimax rotation was conducted to determine the underlying components of 25 potential criteria used by prospective students to evaluate the images of international branch campuses. The Kaiser-Meyer-Olkin test produced a value of .895, confirming adequate sample size, and the Bartlett test of sphericity ($p = .000$) indicates that the data has a high enough degree of correlation between at least a number of variables, making it suitable for exploratory factor analysis. Using the criteria eigenvalue > 0.70 (deemed acceptable by Jolliffe 1986) and factor loading $> .45$, three factors were extracted, which accounted for 70.5% of total variance (Table 4). For both the university image attractiveness and attachment/membership intentions variables, items that loaded significantly (above .45) on multiple components were dropped (Hair et al. 2010), e.g. *Programmes have international accreditation* had a loading of .469 in the *Relevant others* component and .484 in the *Prestige* component.

The three factors were named *Relevant others*, which is concerned with personal relationships, *Prestige* (based on both home and branch campus features) and *Distinctiveness*. Cronbach's alpha was used to test the internal reliability of the factors and the scores ranged from .68 to .88, indicating adequate consistency within each factor.

Table 4. Factor loadings for criteria used by prospective students to evaluate university image attractiveness.

	Relevant others	Prestige	Distinctiveness
<i>RELEVANT OTHERS</i>			
My teachers recommended the university	.836		
My parents would be proud if I went here	.817		
Students in my school think highly of the uni.	.746		
My friends would be impressed if I went here	.727		
The uni. gets mainly positive coverage in the media	.660		
<i>PRESTIGE</i>			
The uni. is a top uni. in its home country		.898	
The uni. achieves high positions in rankings		.782	
Employers like to recruit this uni.'s graduates		.486	
<i>DISTINCTIVENESS</i>			
The uni. appeals to a specific sort of person			.875
The uni.'s campus has a distinctive atmosphere			.743
<i>Eigenvalue</i>	5.11	1.01	0.93
<i>Variance (%)</i>	51.12	10.07	9.33
<i>Cumulative variance (%)</i>	51.12	61.19	70.52
<i>Cronbach's alpha</i>	.88	.77	.68

Explaining 51.1% of total variance, the opinions of relevant others were found to have the strongest influence on student evaluations of institutional images. In the pilot study, students explained their reliance on interpersonal sources, particularly on parents and relatives, firstly as a social norm in their cultures (53.9% of respondents were nationals of countries in South Asia and 13.8% of Middle Eastern countries), and secondly, due to the absence of reliable and independent data on international branch campuses, i.e., data not provided by the institutions themselves. Aspects of the institution's image related to prestige (such as high positions in rankings and the perceived preferences of employers to recruit the institution's graduates) were the second greatest influence on students' evaluations, explaining 10.1% of variance.

Some 39.3% of respondents agreed (by giving scores 5-7) that factors related to prestige influenced their perceptions of an institution (mean score = 4.66, SD = 1.28); 33.1% agreed that they were influenced by information and opinions gained through personal relationships and the media (mean score = 4.19, SD = 1.49); and 29.7% agreed that they were influenced by the distinctiveness of an institution (mean score = 4.52, SD = 1.28). One of the items in the *Distinctiveness* factor was, 'the university appeals to a specific sort of person'. The response to this item could have either a positive or negative affect on the attachment/membership intentions of an individual student according to whether or not he/she believed that the 'specific sort of person' they perceived was similar to themselves. The more similar a prospective student perceives him/herself to the students of a particular university, the more likely he/she will want to enrol at that university (Dutton et al. 1994).

7.5.2 The effects of institutional prestige and relevant others' opinions on students' perceptions of university image attractiveness

Researchers have suggested that an individual's evaluation of an organisation's image is influenced (among other things) by the extent to which the organisation is perceived as prestigious and the extent to which relevant others whose opinions they value hold positive views of the organisation (e.g., Williams and Moffitt 1997; Bhattacharya and Sen 2003). Bivariate correlation analysis (Pearson's correlation coefficient) is used to test the hypotheses that a student's evaluation of the attractiveness of a university's overall image is positively associated with his/her perception of the university's prestige (Hypothesis 4) and positive views held by relevant others (Hypothesis 5).

The variables were operationalised as follows:

The independent variables

- (i) Perceived university prestige (PRE)
 - Q45 This university is a top university in its home country
 - Q46 This university achieves high positions in rankings
 - Q62 Employers like to recruit this university's graduates(Cronbach's alpha = .77)

- (ii) Positive views held by relevant others (REL)
 - Q43 My friends would be impressed if I went here
 - Q51 My parents would be proud if I went here
 - Q52 My teachers have recommended this university
 - Q53 This university gets mainly positive coverage in the media
 - Q66 Other students in my school think highly of this university(Cronbach's alpha = .88)

Dependent variable

- (i) Perceived attractiveness of university image (ATT)
 - Q68 I like that this university is very important to the UAE
 - Q69 I like that this university has many outstanding features
 - Q70 I think I would fit in at this university
 - Q74 An education from this university is valued worldwide
 - Q86 I like that this university is a leading university in the UAE(Cronbach's alpha = .87)

Although the Kolmogorov-Smirnov test for each variable was significant ($p < .05$), indicating deviation from normality, given the large sample size this was not considered problematical. Furthermore, visual examination of the distribution plots revealed that they looked fairly similar to a normal distribution. Table 5 provides the results of the correlation analyses and a summary of hypotheses validation. All of the hypotheses are directional, so the tests are one-tailed. The table shows the results of Pearson's correlation coefficient tests but it was found that the Spearman's correlation coefficient test, which is suitable for non-parametric data, yielded almost identical results.

Table 5. Correlation results and hypotheses validation: Students' evaluations of university image attractiveness.

H	Hypothesis	<i>r</i>	<i>P</i> (1-tailed)	Hypothesis supported?
H4	Perceived university prestige	.629	.000	Yes
H5	Positive views held by relevant others	.738	.000	Yes

The results of the correlation analyses indicate significant positive relationships between a student's evaluation of the attractiveness of a university's image and (i) his/her perception of the university's prestige ($r = .63, p < .001$) and (ii) positive views held by relevant others ($r = .74, p < .001$). Both relationships are strong. The findings support the proposition of Bhattacharya and Sen (2003, p. 80) that the more prestigious consumers perceive a company's image to be, the more attractive the company's image is to them, and they support the empirical findings of Kazoleas et al. (2001) that an individual's perception of a university's image is heavily influenced by interpersonal relationships.

7.5.3 Perceived image attractiveness and attachment/membership intentions

It is assumed that when a prospective student perceives a university's image as attractive, he/she is more likely to want to study at that university. On the basis that image attractiveness is assessed by students through the variables *Relevant others*, *Prestige* and *Distinctiveness* (the factors identified in the exploratory factor analysis), multiple regression analysis was conducted to assess the extent to which a model consisting of the *Relevant others*, *Prestige* and *Distinctiveness* factors (Model 1) was able to predict the attachment/membership intentions of prospective students and to identify the contribution of each factor in the model. Attachment/membership intentions were measured through five items: people like me want to attend this university (Q94); this university is/will be on my shortlist to attend (Q90); I am determined to gain a place at this university (Q92); people like me do *not* go to this university - reverse coded (Q104); and I will *not* apply to this university - reverse coded (Q97). Internal

reliability of the scale for *attachment/membership intentions* (the dependent variable) was assessed using Cronbach's alpha and the score of .95, far higher than the cut-off point of .70, indicates strong consistency among the items in the scale.

The assumptions associated with conducting multiple regression analysis were confirmed, e.g., a linear relationship between the outcome and predictor variables; no multicollinearity (VIF scores ranged from 1.35 to 1.93); no heteroscedasticity among the predictor variables (the graph of *ZRESID and *ZPRED had an even and random distribution around zero); residuals that are normally distributed and independent (Durbin-Watson = 1.95); and few outliers (14 cases had standardised residuals less than -2 or greater than +2 standard deviations). With a sample size of 384, it would have been reasonable to expect 19 cases (5%) to have standardised residuals outside ± 2 standard deviations. ANOVA was used to test whether the model is significantly better at predicting the outcome than using the mean as 'best guess'. The *F*-ratio represents the ratio of improvement in prediction that results from fitting the model relative to the inaccuracy that still exists in the model. The *F*-ratio of 159.82 ($p < .001$) indicates that the results are very unlikely to have happened by chance.

The model with *Relevant others*, *Prestige* and *Distinctiveness* as independent variables was able to explain 55.8% of the variability in the attachment/membership intentions of prospective students ($R^2 = .558$, $p < .001$). However, *Prestige* and *Distinctiveness* were not significant at the .05 level (see Table 6). *Prestige* and *Distinctiveness* were then removed from the regression model and a simple regression model with *Relevant others* as the only predictor variable was tested (Model 2). This model was able to predict 55.4% of the variability in the attachment/membership intentions of prospective students ($R^2 = .554$, $p < .001$). Therefore, Model 2 is preferred.

Table 6. Results of regression analyses: Students' evaluations of university image attractiveness and their attachment/membership intentions.

		<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	R^2
Model 1	Constant	.282	.263	-	1.074	.284	.558
	Relevant others	.897	.057	.752	15.872	.000	
	Prestige	.055	.064	.040	.860	.390	
	Distinctiveness	-.097	.055	-.070	-1.755	.080	
Model 2	Constant	.138	.181	-	.761	.447	.554
	Relevant others	.888	.041	.744	21.780	.000	

7.6 Student-university identification

7.6.1 The components of student-university identification (Research question 3)

Individuals may achieve self-esteem needs through membership of prestigious groups that are distinct from other groups (Ashforth and Mael 1989; Dutton, Dukerich, and Harquail 1994; Bhattacharya and Sen 2003). Identity distinctiveness (saliency) can satisfy self-distinctiveness (definitional) needs (Ashforth and Mael 1989) and identity similarity can satisfy the need for self-continuity (Pratt 1998). Therefore, the proposition that self-esteem, saliency and similarity are the components of student-university identification was tested.

When an organisation is perceived as satisfying self-esteem, self-definitional and self-continuity needs, it is more likely that an individual will perceive the organisation's identity as attractive, and when an individual perceives an organisation as attractive, he or she is more likely to engage in supportive behaviours, including becoming a customer of that organisation (Bhattacharya and Sen 2003).

On the basis that individuals seek to achieve self-esteem, self-distinctiveness and self-continuity needs by identifying with organisations that they perceive as prestigious, distinctive and similar, the variables representing organisational identification are specified as *Self-esteem*, *Saliency* and *Similarity*. The measures for *Student-university identification* were adapted from established scales developed by Bergami and Bagozzi (2000), Bhattacharya and Sen (2003), Hildebrand et al. (2010), Karaosmanoğlu et al. (2011) and Mael and Ashforth (1992). The scale showed good reliability (Cronbach's alpha = .89).

(i) Self-esteem (EST)

Q73 Studying here would be an indicator of my success

Q76 I would feel a sense of achievement if I studied here

Q84 Studying at this university would enhance my social status

Q85 My friends would be impressed if I studied here

Q89 Studying here would make me feel good about myself

(Cronbach's alpha = .93)

(ii) Saliency (SAL)

Q68 I like that this university is very important to the UAE

Q69 I like that this university has many outstanding features

Q77 It appeals to me that this uni. has a well-known brand name/identity

(Cronbach's alpha = .81)

(iii) Similarity (SIM)

Q70 I think I would fit in at this university

Q71 This university and I share similar values

Q83 People like me do not study at this university (reverse coded)

(Cronbach's alpha = .83)

The results of the principal components analysis confirm *Self-esteem*, *Saliency* and *Similarity* as components of student-university identification, as proposed by Bhattacharya and Sen (2003). Of the three variables that measured student-university identification, *Saliency* achieved the highest mean score (mean score = 4.55, SD = 1.32) and it explained 7.51% of the variance in student-university identification. The *Similarity* variable achieved a mean score of 4.29, SD = 1.54 and explained 6.11% of variance, while *Self-esteem* achieved a mean score of 4.08, SD = 1.64 and explained 62.57% of variance.

Given that 44.5% of the survey respondents are assumed to have had no or minimal previous contact or interaction with the universities of interest, the results support the claims of Pratt (1998), Scott and Lane (2000), Bhattacharya and Sen (2003) and Einwiller et al. (2006) that individuals can identify with organisations in the absence of formal membership and even without any previous (or very limited) direct contact or interaction between the individual and the organisation. Importantly, the scale items were designed specifically to test this proposition and therefore the findings are likely more reliable than previous studies (e.g., Wu and Tsai 2007; Karaosmanoğlu, Baş, and Zhang 2011) that used scales intended for employees or existing customers.

7.6.2 Student-university identification and attachment/membership intentions

Once a consumer identifies with an organisation, then patronising that organisation becomes an act of self-expression (Ahearne et al. 2005), and, through patronising an organisation, the consumer can achieve his/her self-esteem, self-definitional and self-continuity needs (Bhattacharya and Sen 2003). Multiple regression analysis was conducted to assess the extent to which a model consisting of the variables *Self-esteem*, *Saliency* and *Similarity* (Model 1) was able to predict the attachment/membership intentions of prospective students and to identify the contribution of each factor in the model.

Attachment/membership intentions were measured through five items, as previously, when testing the variable's relationship with perceived image attractiveness: people like me want to attend this university (Q94); this university is/will be on my shortlist to attend (Q90); I am

determined to gain a place at this university (Q92); people like me do *not* go to this university - reverse coded (Q104); and I will *not* apply to this university - reverse coded (Q97). The Cronbach's alpha value for this scale was .95.

The assumptions associated with conducting multiple regression analysis were confirmed, e.g., a linear relationship between the outcome and predictor variables; no multicollinearity (VIF scores ranged from 2.40 to 3.22); no heteroscedasticity among the predictor variables (the graph of *ZRESID and *ZPRED had an even and random distribution around zero); residuals that are normally distributed and independent (Durbin-Watson = 2.02); and an acceptable number of outliers (16 cases had standardised residuals less than -2 or greater than +2 standard deviations). With a sample size of 384, it would have been reasonable to expect 19 cases (5%) to have standardised residuals outside ± 2 standard deviations. ANOVA was used to test whether the model is significantly better at predicting the outcome than using the mean as 'best guess'. The *F*-ratio represents the ratio of improvement in prediction that results from fitting the model relative to the inaccuracy that still exists in the model. The *F*-ratio of 363.49 ($p < .001$) indicates that the results are very unlikely to have happened by chance.

Model 1, with *Self-esteem*, *Saliency* and *Similarity* as independent variables was able to explain 74.2% of the variability in the attachment/membership intentions of prospective students, i.e., students' desire to enrol at a given university ($R^2 = .742$, $p < .001$). However, *Saliency* was not significant (see Table 7) even though it had a large positive correlation with attachment/membership intentions ($r = .63$, $p < .001$).

Table 7. Results of regression analyses: Impact of student-university identification on students' attachment/membership intentions.

		<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	R^2
Model 1	Constant	-.266	.170	-	-1.560	.120	.742
	Self-esteem	.613	.051	.567	12.110	.000	
	Saliency	-.048	.054	-.036	-.883	.378	
	Similarity	.428	.050	.371	8.549	.000	
Model 2	Constant	-.353	.139	-	-2.538	.012	.741
	Self-esteem	.593	.045	.548	13.103	.000	
	Similarity	.417	.048	.361	8.627	.000	
Model 3	Constant	-.088	.251	-	-.350	.727	.412
	Saliency	.867	.053	.642	16.364	.000	

Saliency was removed from the original regression model and a second model with only *Self-esteem* and *Similarity* as predictor variables was tested (Model 2). The predictive ability of

Model 2 was almost identical to Model 1 as it explained 74.1% of the variability in the attachment/membership intentions of prospective students ($R^2 = .741$, $p < .001$). Thus, Model 2 is preferred over Model 1. Given the large positive correlation between *Saliency* and attachment/membership intentions, it was interesting to explore the predictive power of *Saliency* when used as the only predictor variable. So, a simple regression model (Model 3) was tested where the only independent variable was *Saliency*. *Saliency* was found to be significant in explaining 41.2% of the variability in attachment/membership intentions of prospective students ($R^2 = .412$, $p < .001$). Therefore, Model 2 is preferred over both models 1 and 3.

Given that 44.5% of the sample is assumed to have had no or minimal previous contact or interaction with the universities of interest, the results of the regression analysis provide empirical evidence that student-university identification can lead to attachment/membership intentions among prospective students who might not have had any previous direct contact or interaction with the institution. It is concluded therefore that prospective students who strongly identify with a particular university are more likely to want to study at that university.

Chapter 8 Structural model

8.1 Introduction to structural equation modelling

The modern positivist paradigm for conducting scientific research relies on developing sound theoretical frameworks followed by rigorous testing of these theories (Hoe 2008). Structural equation modelling (SEM) is a powerful statistical technique that is now widely used by researchers in many fields, including education, psychology and marketing. SEM is essentially a hypothesis-testing tool, i.e., it takes a confirmatory approach, but it can also aid theory development through exploratory modelling, for example by allowing the testing of alternative/revised models. Kline (1998, p. 9) warns that the terms 'confirmatory' and 'exploratory' should not be interpreted as applied to statistical techniques, including SEM, in an absolute way.

The term SEM does not represent a single statistical technique but rather a range of related procedures that include, for example, factor analysis, multiple regression analysis, simultaneous equation modelling and path analysis. SEM uses various types of models to depict relationships among observed variables, with the basic goal of providing a quantitative test of a theoretical model hypothesised by a researcher (Schumacker and Lomax 2004). Typically, the observations of multiple variables represent causal processes. Based on theory and previous empirical research, the researcher hypothesises that sets of variables define the constructs, which are believed to be related in a certain way. The basic goal of SEM analysis is to determine the extent to which a hypothesised model is supported by sample data.

SEM is suitable for inferential data analysis and hypothesis testing when the relationships among variables are specified a priori and grounded in established theory. In SEM analysis, the hypothesised causal processes are represented by a series of structural (regression) equations, which can be displayed diagrammatically to enable a clearer conceptualisation of the theory. The hypothesised model is tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which it is consistent with the data and if the goodness-of-fit is adequate, then the model offers support for the hypothesised relationships among variables (Byrne 2010). If the goodness-of-fit is inadequate, then the tenability of the hypothesised relationships is rejected.

Researchers are often interested in examining theoretical constructs that cannot be observed or measured directly. These abstract phenomena are known as latent variables. Standard statistical procedures such as ANOVA and multiple regression do not offer a convenient way to differentiate between observed and latent variables. SEM, in contrast, can

deal effectively with latent variables, but the researcher must first define latent variables in terms of the behaviour they are believed to represent and then link them to sets of observable variables so that measurement can be undertaken. The observed variables act as indicators of the underlying constructs they are believed to represent, so latent variables are indirectly observed/measured and are inferred from sets of variables measured in tests or surveys.

In SEM analysis, it is usual to distinguish between latent variables that are exogenous and those that are endogenous. Exogenous latent variables are similar to independent variables, and, as they change in value, they 'cause' changes to the values of other latent variables, the endogenous variables, which are similar to dependent variables. So, in this research, the conceptual model specifies perceived university image attractiveness as an exogenous latent variable and student-university identification as an endogenous latent variable. Changes in the values of exogenous variables are not explained by the model, but are considered to be influenced by other factors external to the model (Byrne 2010).

Factor analysis is often used to investigate relationships between sets of observed and latent variables. In factor analysis, the covariances among a set of observed variables are examined in order to identify their underlying latent constructs (the factors). If the links between observed and latent variables are unknown or uncertain, then exploratory factor analysis is used. The aim of exploratory factor analysis is to identify the minimal number of factors that account for covariation among the observed variables (Byrne 2010). The extent to which the observed measures (e.g., questionnaire items) are related to the latent constructs is indicated by factor loadings. Thus, observed variables are linked to specific latent constructs on the basis of factor loadings. In determining whether a particular factor loading is significant, sample size is considered. A factor loading of .55 is necessary to indicate significance at the .05 level for a sample size of 100, but this decreases to .30 for a sample size exceeding 350 (Janssens et al. 2008, p. 261). Some researchers only consider factor loadings above .40 or .45 (Stevens 2003; Field 2009), and in the exploratory factor analyses conducted previously (detailed in Sections 7.4.1 and 7.5.1) factor loadings below .45 were ignored. Observed variables should not have high factor loadings (i.e., at or above the value indicating significance given the sample size) across two or more components within a latent construct and those observed variables that do should be discarded.

If a researcher has some knowledge about the underlying latent variable structure, then it is more appropriate to use confirmatory factor analysis. On the basis of theory and previous empirical research, the researcher can form hypotheses about the relationships between the

observed variables and the latent constructs and then test these hypotheses statistically. A model is evaluated according to the adequacy of its goodness-of-fit to the sample data.

The structural equation modelling process typically involves two stages: first, confirmatory factor analysis is used to evaluate the *measurement model*, which specifies the relationships between latent variables and their observed measures. If the measurement model is adequate, then the *structural model* can be examined with regard to relationships among its latent variables. Covariance is the basic statistic of SEM and the two main goals of the analysis are, first, to understand the patterns of correlations among a set of variables and, second, to explain as much of their variance as possible with the model specified by the researcher (Kline 1998).

A structural model that specifies causal direction from only one direction, as in this study (i.e., perception of university image attractiveness > student-university identification > student's supportive intentions for the university) is termed a recursive model. A model that allows for reciprocal or feedback effects is termed a non-recursive model.

The measurement and structural models can be expressed mathematically, using a set of equations, or diagrammatically. The researcher's choice of software for conducting SEM will determine the approach adopted for expressing the models; LISREL (Linear Structural Relationships) requires mathematical expressions while AMOS (Analysis of Moment Structures) requires diagrammatic representations of models. The SEM procedure is the same for both programs: essentially, the structure of the model is imposed on the sample data and then the extent to which the observed data fits this restricted structure is determined. The differences between the observed data and the hypothesised model are known as residuals. When the residuals are deemed too high the model can be respecified and then retested. The procedure of model modification typically involves a *specification search*. The purpose of a specification search is to alter the original model in search of a model that is better fitting and which has substantive meaning (Schumacker and Lomax 2004, p. 71).

SEM requires relatively large samples. Hoelter (1983) and Garver and Mentzer (1999) recommend a minimum sample size of 200. However, required sample size varies according to model complexity; complex models involve the estimation of more statistical effects and so larger samples are required in order for the results to be reasonably stable. Also, different estimation methods can be used in SEM and these have different sample size requirements. Kline (1998, p. 12) claims that sample sizes exceeding 200 cases can generally be considered

'large'. With a sample size of 384, it seems that there is consensus in the literature that this is both a large and adequate sample size.

Sample size can also be considered as a ratio to number of parameters estimated. Bentler and Chou (1987, p. 91) state the ratio can go as low as 5:1, though they prefer a ratio of 10:1. However, Bagozzi and Yi (2012, p. 29) claim to have found satisfactory models with ratios of 3:1, and even 2:1, and they argue that other issues, such as multivariate normality, are just as important as sample size. The full structural model in this study estimates 23 parameters, so with a sample size of 384, the sample/parameters ratio is a very comfortable 16.7:1.

SEM has the advantage of being able to analyse data involving both observed and latent variables and it can test multiple hypotheses simultaneously, but some researchers may consider SEM more complex and cumbersome than alternative statistical techniques. In the following section, some of the main benefits of SEM and the reasons why it was chosen for the data analysis in this research are explained.

8.2 The advantages of structural equation modelling in this research

Structural equation modelling (SEM) is an effective and commonly used tool for theory testing in the fields of marketing and consumer behaviour. Priester (2010) has identified dozens of researchers who have used SEM in consumer psychology research. Most multivariate techniques – such as factor analysis, multivariate analysis of variance and multiple regression – are only able to examine a single relationship at a time. Even the techniques that allow multiple dependent variables, such as multivariate analysis of variance, still represent only a single relationship between the dependent and independent variables (Hair 2010). In contrast, SEM can examine a series of dependence relationships simultaneously. It is particularly useful in testing theories that contain multiple equations involving dependence relationships (Hair 2010).

It is hypothesised in this research that a student's perception of university image attractiveness is related to student-university identification and that student-university identification is related the student's supportive intentions for that university. So, student-university identification is hypothesised to first be a dependent variable and then to be an independent variable in a subsequent relationship between latent variables. None of the other techniques mentioned above allow the researcher to first assess measurement properties and then test the hypothesised theoretical relationships in one technique.

When working with SEM, the researcher has to specify the pattern of relationships between variables a priori, making the technique useful in analysing data for inferential purposes. It can be considered an advantage of SEM that the researcher is forced to be thoughtful and precise in their operationalization of constructs and specification of hypotheses. Other multivariate procedures are essentially descriptive in nature and so hypothesis testing is often difficult, if not impossible (Byrne 2010). Traditional multivariate techniques are incapable of assessing or correcting for measurement error, but SEM provides explicit estimates of these error variance parameters. Indeed, in some alternative methods, such as those rooted in regression, it is assumed that errors in the independent (explanatory) variables vanishes (Byrne 2010). Clearly, if errors are large, then the result can be serious inaccuracies in data analysis.

Another advantage of SEM is that traditional multivariate techniques use observed measures only whereas SEM can incorporate both observed variables and unobserved (latent) variables. In this research, student-university identification is an example of a latent variable since the construct cannot be observed directly. SEM, therefore, enables more complex and sophisticated theories to be statistically modelled and tested. SEM can be used in various types of data analysis: it can examine relationships between variables; it can help us understand how a particular variable accounts for (mediates) the influence of one variable on another; and it is also able to assess group differences in theoretical models. Thus, SEM helps the researcher to understand the nature of the key constructs as well as the influence of the constructs on each other.

SEM software programs have become increasingly user-friendly. Originally, LISREL users had to input the program syntax for their models using Greek and matrix notation, but this is no longer necessary. Most SEM software programs are Windows based and use pull-down menus or diagrams to generate the program syntax internally, and because the programs contain features similar to other Windows based software packages, researchers find them relatively easy to use (Schumacker and Lomax 2004).

In summary, SEM was chosen as the technique to analyse the survey data and test the hypotheses because it is suitable for inferential data analysis and hypothesis testing when the relationships among variables are specified a priori; it has the ability to work with theoretical models that incorporate latent variables; it can examine a series of dependence relationships simultaneously; it provides explicit estimates of error variance parameters; it can help us understand how a particular variable mediates the influence of one variable on another; it is

able to assess group differences; and with contemporary software programs (particularly AMOS) model validation and hypothesis testing are relatively straightforward.

8.3 Choice of software for SEM analysis: AMOS (Analysis of Moment Structures)

Launched commercially in 1976, LISREL (Linear Structural Relationships) was the first available software programme created for SEM analysis. Since LISREL came onto the market, several other SEM programs have been developed, including AMOS (Analysis of Moment Structures) and EQS. Each program is unique in its own way and each is capable of different SEM applications (Schumacker and Lomax 2004). An examination of journal articles in the marketing field that have used SEM reveals that LISREL seems to be the most popular program used by marketing researchers. However, LISREL users have to be proficient in LISREL's matrix language and Bentler (2010) argues that this is not the most intuitive way to learn SEM, especially as today it is now possible to perform model specification by drawing path diagrams. In fact, Bentler (2010) goes further, suggesting that LISREL's use of Greek letters represents an artificial and unnecessary barrier that impedes researchers becoming proficient in the use of SEM for substantive research.

AMOS allows users to estimate parameters and test hypotheses through graphical interfaces. AMOS accepts a path diagram as the model specification. Drag-and-drop drawing tools are used to facilitate model specification in an intuitive and user-friendly way. A toolbox on the graphics screen provides a palette of tool icons that perform all of the main functions required. The program can be used easily by researchers who do not possess high levels of statistical knowledge; all that is required, apart from basic computer skills, is a knowledge of basic statistical techniques such as factor analysis and regression and the ability to convert a theoretical model into a path diagram that indicates the variables and hypothesised relationships between them.

After the theoretical model has been specified in AMOS as a path diagram, the dataset that the researcher has obtained is applied to the a priori specified model. The results of the statistical analyses are displayed either as tables or on the path diagram, in a way that is easy for the researcher and audiences to understand and interpret. A key advantage of AMOS is that visual diagrams reveal the variables, interrelationships and interdependencies of models and they readily communicate both the conceptual model and the results of the statistical analyses to audiences. In addition, if researchers prefer, AMOS has two alternative modes of operation that allow them to work directly from equation statements rather than from a path

diagram (Byrne 2010, p. 17). The numeric methods implemented in AMOS are among the most effective and reliable available (Arbuckle 2010).

The AMOS software package is owned by IBM, which also owns the SPSS statistical software package. The two packages therefore are compatible and it is easy to move data between them, as was done in this research. In summary, AMOS (version 18.0) was chosen as the software package for performing the SEM analyses because it is relatively easy to use and understand; it allows models to be specified, viewed and modified graphically using simple drawing tools; it produces clear, easy to interpret results in graphical and table formats; and it provides publication-quality output that is easily incorporated into Word documents using an icon in the main palette of tools.

8.4 Symbol notation and path diagrams

Most researchers using AMOS find it convenient to portray their models as path diagrams rather than expressing all of the relationships as equation statements. Path diagrams use specific conventions for variables and the relationships between them. Figure 6 shows a basic structural equation model. The exogenous (independent) and endogenous (dependent) variables are shown as ellipses (named *exog* and *endog*).

Each of the latent constructs has three observed variables, i.e., questionnaire items, which serve as indicators of the underlying construct which they are presumed to represent. Observed variables are shown as squares or rectangles. In this model, the observed variables for *exog* are X1, X2 and X3. The latent variables are linked with their observed variables using single-headed arrows, which point towards the observed variables. Associated with each observed variable is an error term (e1 – e6) and with the variable being predicted there is a residual term (res 1). Error and residual terms are shown as circles and linked to observed/predicted variables with single-headed arrows, which point towards the observed/predicted variables.

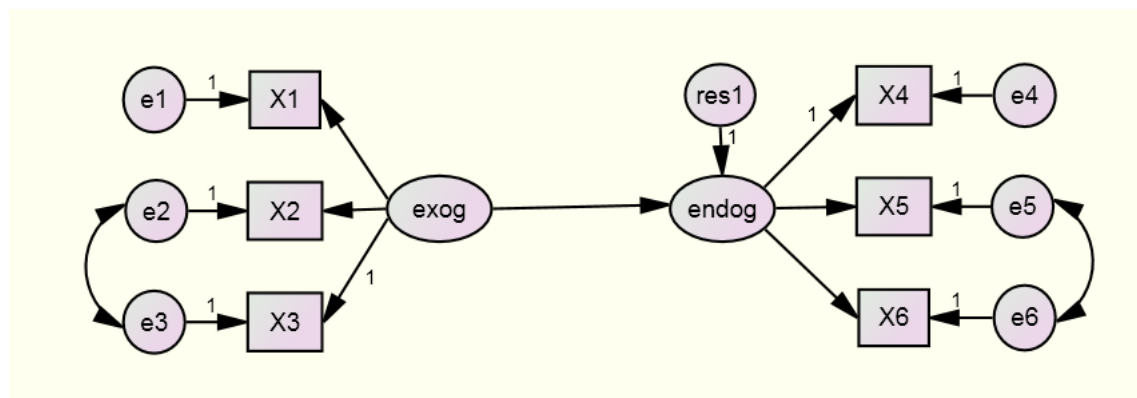


Figure 6. A simple structural equation model.

Error associated with an observed variable represents *measurement* error, which indicates the degree to which the observed variable is not perfectly measuring the latent construct. Measurement error can be caused in a number of ways, including respondents having varied interpretations of questions/constructs and the researcher making simple mistakes in data entry. A residual is the difference between the actual and estimated value for any relationship, which in SEM is the difference between the observed and estimated covariance matrices.

Double-headed arrows represent covariances or correlations between pairs of variables, for example, in Figure 6, the measurement error associated with X2 is correlated with that associated with X3. Exogenous variables are linked to endogenous variables with single headed arrows that indicate the impact of one variable on another. For each latent construct, AMOS automatically constrains the factor loading of one observed variable to 1, in order to give the construct an interpretable scale, and the error and residual terms are also given a value of 1.

A SEM model, as shown in Figure 6, actually comprises two sub models. First, the *measurement model* defines the relationships between the observed and latent variables. The measurement model specifies the indicators for each construct and, using confirmatory factor analysis, construct validity can be assessed. Thus, the measurement model in Figure 6 comprises the two latent constructs and the observed variables associated with each. Second, the *structural model* defines the relationships between latent variables. So, in Figure 6, the structural model comprises the two latent variables and the link between them, which indicates the 'causal' relationship.

8.5 Conceptual model and hypotheses

The conceptual framework of the structural model that was created and tested comprises three stages: student's evaluation of image attractiveness → student-university identification → student's supportive intentions. The hypotheses and their rationale were specified in Sections 5.3 – 5.5, and the hypotheses can be restated as follows:

Hypothesis 4: The more prestigious a university is perceived by a student, the more attractive the university's image will be to him/her.

Hypothesis 5: The more that relevant others are perceived by a student to hold positive views about a university, the more attractive the university's image will be to the student.

Hypothesis 6: The more similar a student perceives him/herself to be to a university and the students who study at it, the more strongly he/she will identify with that university.

Hypothesis 7: The more a university is perceived by a student to satisfy self-esteem needs, the more strongly the student will identify with that institution.

Hypothesis 8: The more attractive a student perceives a university's image, the more strongly the student will identify with that university.

Hypothesis 9: The more attractive a student perceives a university's image, the greater the student's intentions to support that institution.

Hypothesis 10: The more strongly a student identifies with a particular university, the greater the student's intentions to support that institution.

The structural model does not include a variable associated with image formation by potential students, so hypotheses 1-3 are not tested by the structural model.

8.6 Measures and measurement scales

As explained in Section 8.1, latent variables are indirectly observed/measured and are inferred from sets of variables measured in tests or surveys. When specifying indicators for a construct, the researcher must decide how many indicators are needed for each construct. A larger number of indicators might better represent the construct and maximise reliability, but parsimony encourages researchers to use the smallest number of indicators that adequately represent a construct. Although more items produce higher reliability estimates and generalizability, more items also require larger sample sizes and can make it difficult to produce truly unidimensional factors (Hair et al. 2010, p. 698). Too few indicators per factor produce unstable solutions and lead to failures of programs to converge, especially in complex models with many latent variables and paths (Bagozzi and Yi 2012, p. 16). Hence, researchers generally advocate using at least three indicators per factor (Hair 2010; Bagozzi and Yi 2012). Each of the latent constructs in this research has three indicators.

The structural model is specified as comprising one exogenous variable (*Student's evaluation of image attractiveness*) and two endogenous variables (*Student-university identification* and *Student's supportive intentions*). A reflective measurement approach is adopted, which assumes that the latent constructs cause the measured variables (which is why in the path diagrams that follow the arrows point from the latent variables towards the measured variables).

As determined in Section 7.5.1, the indicators for *Student's evaluation of image attractiveness* are *Relevant others* (REL), *Prestige* (PRE) and *Distinctiveness* (DIS). The items that comprise each indicator are as follows:

- (i) Positive views held by relevant others (REL)
 - Q43 My friends would be impressed if I went here
 - Q51 My parents would be proud if I went here
 - Q52 My teachers have recommended this university
 - Q53 This university gets mainly positive coverage in the media
 - Q66 Other students in my school think highly of this university
(Cronbach's alpha = .88)
- (ii) Perceived university prestige (PRE)
 - Q45 This university is a top university in its home country
 - Q46 This university achieves high positions in rankings
 - Q62 Employers like to recruit this university's graduates
(Cronbach's alpha = .77)
- (iii) Distinctiveness (DIS)
 - Q58 This university appeals to a specific sort of person
 - Q59 This university's campus has a distinctive atmosphere
(Cronbach's alpha = .68)

Student-university identification has the indicators *Self-esteem* (EST), *Saliency* (SAL) and *Similarity* (SIM), and the items that comprise each indicator are as follows:

- (i) Self-esteem (EST)
 - Q73 Studying here would be an indicator of my success
 - Q76 I would feel a sense of achievement if I studied here
 - Q84 Studying at this university would enhance my social status
 - Q85 My friends would be impressed if I studied here
 - Q89 Studying here would make me feel good about myself
(Cronbach's alpha = .93)
- (ii) Saliency (SAL)
 - Q68 I like that this university is very important to the UAE
 - Q69 I like that this university has many outstanding features
 - Q77 It appeals to me that this uni. has a well-known brand name/identity
 - Q86 I like that this university is a leading university in the UAE
(Cronbach's alpha = .85)
- (iii) Similarity (SIM)
 - Q70 I think I would fit in at this university
 - Q71 This university and I share similar values
 - Q83 People like me do not study at this university (reverse coded)
(Cronbach's alpha = .83)

Students might support a university in a number of different ways, e.g., by forming an attachment to the institution or by developing a desire to become a student at that institution; by engaging in behaviours that benefit or support the institution, e.g., promoting the institution by wearing clothes that bear its name; or by positively interacting or involving themselves with the institution, e.g., by attending events at its campus or by participating as

respondents in its research activities. Therefore, rather than using *Attachment/membership intentions* as the final endogenous/dependent variable as in the previous analyses, the structural model was enhanced by using *Supportive intentions* as the final endogenous/dependent variable. The measures were adapted from scales developed by Ahearne, Bhattacharya, and Gruen 2005; Bhattacharya and Sen 2003; and Karaosmanoğlu, Baş, and Zhang 2011. The observed variables that function as indicators of *Student's supportive intentions* are *Attachment* (ATT), *Beneficial behaviours* (BEN) and *Positive involvement* (INV). The items that comprise each indicator are as follows:

(i) Attachment/membership (ATT)

- Q90 This university is/will be on my shortlist of universities to attend
 - Q92 I am determined to gain a place at this university
 - Q94 People like me want to attend this university
 - Q97 I will not apply to this university (reverse coded)
 - Q104 People like me do not go to this university (reverse coded)
- (Cronbach's alpha = .95)

(ii) Beneficial behaviours (BEN)

- Q93 I would recommend this university to my friends
 - Q107 I would be proud to wear a T-shirt bearing this university's name
 - Q108 I would encourage my parents to support this university, e.g., providing work placements
- (Cronbach's alpha = .84)

(iii) Positive involvement (INV)

- Q95 I would attend an educational event at this university
 - Q99 I would attend a talk at my school given by this university
 - Q103 I would participate in a survey organised by this university
 - Q105 I would be happy to regularly receive a student magazine from this university
- (Cronbach's alpha = .87)

The way in which variables are measured influences the type of statistical analyses that can be performed. For example, a nominal variable, such as socio-economic classification, implies mutually exclusive groups. An individual can only be a member of one group, and for the socio-economic variable it would be meaningless to calculate means or standard deviations. SEM research often uses ordinal variables, where respondents state their attitudes on a scale from 'strongly agree' to 'strongly disagree', which implies mutually exclusive categories that are ordered/ranked. Indicators with ordinal responses of at least four response categories can be treated as interval, or at least as if the variables are continuous (Hair et al. 2010, p. 702) but researchers should check that variables meet this assumption.

For SEM, all of the indicators for a construct need not be of the scale type, nor do different scale values have to be normalised, although using the scale types and normalised values will

make interpretation of the results much easier. Schumacker and Lomax (2004, p. 40) recommend against using different scale types in a correlation (Covariance) matrix. For this reason, it was decided to use only ordinal scales. Seven-point scales were used for all measures, which provided a sufficient range of score values to introduce variance and a relatively high degree of insight into respondents' varied attitudes. There needed to be enough variation in scores to allow a correlation relationship to manifest itself between variables (Schumacker and Lomax 2004). Each point on the scale was given a label, as shown in Figure 7, to minimise measurement error. Several reverse-coded questions were included on the questionnaire, to encourage respondents to remain focused and to allow the researcher to assess respondent reliability. The full survey questionnaire is provided in Appendix 2.

1	2	3	4	5	6	7
Not at all	To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent	To an extremely large extent

1	2	3	4	5	6	7
Strongly disagree	Mostly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Mostly agree	Strongly agree

Figure 7. Labels used on seven-point scales of survey instrument.

8.7 Preliminary analyses: assessment of construct efficacy

Before the complete structural equation model was assembled, a preliminary assessment was undertaken on the efficacy of each of the hypothesised constructs, which checked for adequate identification, model fit, convergent validity, reliability and discriminant validity. Exploratory factor analysis had already been used to identify the number of factors that represented the underlying structure of each construct and the measures used for each factor.

8.7.1 Model identification

Identification is a very important concept in SEM analysis. Identification indicates whether enough information exists to identify a solution to a set of structural equations. SEM does not analyse raw data; instead it analyses the variance/covariance matrix of the observed variables. In SEM (and confirmatory factor analysis), one parameter can be estimated for each unique variance and covariance in the observed covariance matrix. Therefore, the covariance matrix provides the degrees of freedom used to estimate parameters. If there are p measured items,

then the number of unique variances/covariances can be calculated as $\frac{1}{2}[p(p+1)]$. Then, for each parameter estimated, one degree of freedom is lost. Conveniently, AMOS performs the calculation.

Ideally, a researcher would like to have an over-identified model, which has more unique covariance and variance terms than parameters to be estimated. A unique solution can be calculated for an over-identified model. In contrast, an under-identified model has more parameters to be estimated than unique indicator variable variances and covariances in the observed variance/covariance matrix and so it will not be possible to find a unique solution. A model with 0 degrees of freedom is just-identified, which means that there are just enough degrees of freedom to estimate all free parameters. Although a just-identified model is capable of yielding a unique solution for all parameters, a just-identified model is not scientifically interesting because it has no degrees of freedom and therefore can never be rejected (Byrne 2010, p. 34) because its (perfect) fit has been determined by circumstance (Hair et al. 2010, p. 699). Identification can be increased by increasing the number of measured items in the model, although this might mean revising the survey instrument and starting the data collection process again from scratch.

In addition to the problem of insufficient degrees of freedom, identification problems can be caused by incorrect indicator specification and not 'setting the scale' of a construct. A researcher can easily make mistakes such as (1) not linking an item to a construct, (2) linking an indicator to two or more constructs, (3) selecting an indicator variable twice in the same model, or (4) not creating and linking an error term for each indicator (Hair et al. 2010, p. 705). In SEM analysis, each construct must have one value specified (either a loading of an indicator or the construct variance) and failure to do this will result in estimation problems.

Researchers can recognise identification problems by looking for large standard errors for one or more coefficients; unreasonable or impossible estimates such as negative error variances or very large parameter estimates, including standardised factor loadings and correlations outside the range +1 to -1; and models that result in differing parameter estimates based on the use of different starting values (Hair et al. 2010, p. 705). Researchers should not, therefore, rely solely on SEM software to flag identification problems.

8.7.2 Model fit

In SEM, the primary interest of researchers is the extent to which a hypothesised model 'fits', or adequately describes, the sample data. Even with no identification problems, SEM models can produce estimations of parameters that are logically unreasonable or impossible.

Parameter estimates should be checked to ensure they exhibit the correct sign and size and that they fall within the admissible range (Byrne 201, p. 67). For example, correlations outside the range +1 to -1 or negative variances would indicate a problem. Another indicator of poor model fit is the presence of standardised errors that are excessively large or small. Standard errors reflect the precision with which a parameter has been estimated and a large value would suggest inaccurate estimation. An error term cannot be negative (termed a Heywood case) since this would imply that more than 100% of the variance in a variable or construct is explained (Hair et al. 2010, p. 706). Heywood cases are more likely with small sample sizes (< 300) or when constructs have less than three indicators.

One of the most fundamental assessments of construct validity involves the measurement relationships between items and constructs. Acceptable models should have relatively high loadings, e.g., standardised loadings above .50 (Janssens et al. 2008, p. 294), although Hair et al. (2010, p. 708) suggest values above .70 are ideal. High loadings confirm that indicators are strongly related to their associated constructs. Researchers should examine the statistical significance of each estimated coefficient and non-significant estimates should be dropped. The critical ratio (C.R.) is the test statistic that should be used, which represents the parameter estimate divided by its standard error.

The primary objective of the SEM estimation process is to yield parameter values where the residuals (discrepancies) between the estimated/implied covariance matrix and the observed/sample covariance matrix are minimal. AMOS produces several goodness-of-fit test results. The chi-square (χ^2) test statistic is in some ways the most fundamental as it can be used to test the null hypothesis that the implied variance-covariance matrix of indicators reproduces the sample variance-covariance matrix (Bagozzi and Yi 2012, p. 28). In SEM, therefore, a good fit is indicated when the χ^2 statistic is non-significant. However, because the χ^2 statistic is sensitive to sample size, it becomes difficult to achieve satisfactory model fits as sample sizes increase. A common outcome in everyday research is that the χ^2 test produces a significant result, but if a relatively large sample has been used (> 200) then there is a danger that a researcher could reject a valid model (Bagozzi 2010). Conversely, with small sample sizes there is increased risk that researchers accept invalid models on the basis of a non-significant χ^2 test result. For this reason, researchers generally examine a range of alternative fit indices and it is now common in published studies for researchers to state the results of several goodness-of-fit tests. During the last three decades, researchers have proposed a number of newly developed fit indices. A brief summary is given below of some of the most commonly used fit indices:

1. Normed chi-square test (χ^2/df)

The normed chi-square test is intended to produce a more accurate result than the χ^2 test for larger sample sizes (> 200) (Hoe 2008, p. 78). This test can identify models that are over-identified and which might be unfairly influenced by chance (Schumacker and Lomax 2004, p. 105). The normed chi-square test is calculated as $NC = \chi^2/\text{degrees of freedom}$. AMOS shows the result as CMIN/DF.

2. Root mean square error of approximation (RMSEA)

The RMSEA measures the discrepancy between the observed and estimated covariance matrices per degree of freedom. It measures the discrepancy in terms of the population rather than the sample, thus it represents how well a model fits a population, not just the sample used. The RMSEA explicitly tries to correct for model complexity and sample size by including both in its computation (Hair et al. 2010, p. 667).

3. Normed fit index (NFI)

NFI is the ratio of the difference in the χ^2 value for a fitted model and a null/baseline model divided by the χ^2 value for the null/baseline model (Hair et al. 2010, p. 668). It produces a value that ranges from 0, which indicates no fit, to 1, which indicates perfect fit (Schumacker and Lomax 2004, p. 104).

4. Comparative fit index (CFI)

CFI is intended as an improved version of the NFI test. It measures the improvement in noncentrality in going from a least restrictive to a saturated model and uses the noncentral χ^2 (d_k) distribution with noncentrality parameter λ_k to define comparative fit. The CFI produces a value between 0 and 1, with higher values indicating better fit (Hair et al. 2010, p. 669).

Goodness-of-fit statistics can be classified as absolute or incremental fit measures. Absolute indices do not compare the hypothesised model with another model while incremental tests involve comparisons with null/baseline models. There is a third group of indices – known as parsimony fit indices – that provide information about which model among a set of competing models is best, considering their fit relative to their complexity. Parsimony indices were not used in this research. Hair et al. (2010, p. 721) advise researchers that in addition to χ^2 results they should rely on at least one absolute fit index (e.g., χ^2/df , RMSEA) and one incremental fit index (e.g., NFI, CFI). The CFI is the most widely used incremental fit index (Hair et al. 2010, p. 721) and Bentler (1990) argued that the CFI should be the index of choice over the NFI.

The values for each goodness-of-fit test that are recognised as indicating acceptable model fit vary among researchers. Table 8 summarises the cut-values proposed by a range of

researchers and the ‘target’ cut-values used in this research. Hair et al. (2010, p. 678) advise that it is not practical to apply a single set of cut-off values to all measurement or structural models, as there is no set of index values that can separate good from poor models. In addition to fit indices, researchers should also take into account model complexity, sample size and face validity, e.g., that parameter estimates are statistically significant and in the predicted direction and that values are > 0 for positive relationships and < 0 for negative relationships.

Table 8. Goodness-of-fit tests and values indicating good model fit.

Test	Result produced	Proposed cut-values indicating good model fit	Cut-value used in this research
χ^2	<i>p</i> -value	> .05 (Schumacker and Lomax 2004) > .05 (Hair et al. 2010) > .05 (Bagozzi and Yi 2012)	> .05
χ^2/df	Value usually between 0 and 8.	< 3 (Kline, 1998) > 1 and < 5 (Schumacker and Lomax, 2004) < 3 (Sung and Yang 2008) < 3 (Hair et al. 2010)	< 3
RMSEA	0 (better fit) – 1 (worse fit)	< .10 (Browne and Cudeck 1993) < .06 (Hu and Bentler 1999) < .05 (Schumacker and Lomax 2004) < .08 (Hoe 2008) < .08 (Sung and Yang 2008) < .08 (Hong and Yang 2009) < .07 (Hair et al. 2010) ^a	< .08
NFI	0 (worse fit) – 1 (better fit)	> .90 (Kline 1998) > .95 (Schumacker and Lomax 2004)	> .95
CFI	0 (worse fit) – 1 (better fit)	> .90 (Kline 1998) > .95 (Hu and Bentler 1999) > .90 (Hoe 2008) > .95 (Sung and Yang 2008) > .95 (Hair et al. 2010) ^a	> .95

^aHair et al.’s (2010, p. 672) cut-values are stated for sample sizes > 250 and when number of observed variables < 12. This research has a sample size of 384 and the full structural model developed in this research has 9 observed variables. Hair et al. (2010) argue that simpler models and smaller samples should be subject to stricter criteria than more complex models and larger samples.

8.7.3 Convergent validity

Convergent validity indicates the degree to which the indicators of a latent variable confirm one another. A first (weaker) test is that each of the loadings is significant. The test statistic here is the critical ratio (C.R.), which should yield a result > 1.96 to confirm convergent validity

(Janssens et al. 2008, p. 306). Non-significant parameters, with the exception of error variances, can be considered unimportant to the model and therefore should usually be deleted from the model (sample size permitting). A second, stricter, condition is that the correlation between each indicator and its associated latent variable is greater than .50 (assuming that the model also has good fit).

8.7.4 Reliability

After convergent validity has been confirmed, reliability must always be verified. Janssens et al. (2008, p. 307) advise conducting the tests for convergent validity before those for reliability as it is possible for a model to be reliable without it being convergent valid. Unfortunately, AMOS does not conduct reliability tests so the researcher has to calculate *composite reliability* manually for every latent variable, using the following formula:

$$\frac{(\sum \text{standardised loadings})^2}{(\sum \text{standardised loadings})^2 + \sum \text{measurement errors}}$$

The measurement error is equal to one minus the reliability of the indicator, which is the square of the standardised loading of the indicator (known as the squared multiple correlation). Janssens et al. (2008, p. 308) state that the composite reliability value should be higher than .70 to indicate an acceptable level of reliability, and they observe that the composite reliability test often yields a slightly higher value than Cronbach's alpha.

8.7.5 Discriminant validity

Discriminant validity is the extent to which a construct is truly distinct from other constructs (Hair et al. 2010, p. 689). High discriminant validity provides evidence that a construct is unique and captures some phenomena other measures do not. Discriminant validity can be tested by comparing a model in which the traits correlate freely with one in which they are perfectly correlated (Byrne 2010, p. 291). The larger the discrepancy between the χ^2 and the CFI (comparative fit index) values, the stronger the support for evidence of discriminant validity.

Although there are other (perhaps stronger) tests of discriminant validity – for example, comparing average variance-extracted values for any two constructs with the square of the correlation estimate between these two constructs (Hair et al. 2010, p. 710) – the test involving a model with perfectly correlated traits was considered, in the first instance, sufficient for this research.

8.8 Modification indices and specification searches

For each parameter specified, AMOS provides a modification index, the value of which represents the expected drop in overall χ^2 value if the parameter were to be freely estimated in a subsequent run (Byrne 2010, p. 86). All freely estimated parameters automatically have modification index values equal to 0. Although the modification index is expected to approximate to the decrease in χ^2 , the actual difference can be larger.

Modification indices of approximately 4.0 or greater suggest that the fit could be improved considerably by freeing the corresponding path to be estimated (Hair et al. 2010, p. 712). Researchers should not however make changes to models on the basis of modification indices alone, but rather changes should be supported by theoretical justification (Janssens et al. 2008; Byrne 2010).

AMOS also reports the expected parameter change value. This statistic represents the predicted estimated change, in either a positive or negative direction, for each fixed parameter in the model and yields important information regarding the sensitivity of the evaluation of fit to any modification of the model (Byrne 2010).

A specification search is an empirical trial-and-error approach that uses model diagnostics such as modification indices to suggest changes to a model (Hair et al. 2010). Usually, the fixed (non-estimated) relationships with the largest modification indices are freed. However, the use of specification searches to make model improvements is inconsistent with confirmatory factor analysis and with SEM being a model testing tool rather than an exploratory tool. Although dropping a number of variables from a model would usually be regarded as unacceptable or at least very undesirable, with such an action requiring a new dataset for verification, allowing connections between one or two pairs of error terms in less complex models is not generally considered problematical and is routinely done by researchers (e.g., by Janssens et al. 2008; Byrne 2010).

8.9 Student evaluation of image attractiveness

Figure 8 shows the hypothesised structure of the *Student evaluation of image attractiveness* construct.

To analyse the hypothesised model, AMOS was used, with parameters estimated by the maximum likelihood method. Figure 9 shows extracts of the tested model summary notes; Figure 10 the model fit summary; and Figure 11 the modification indices.

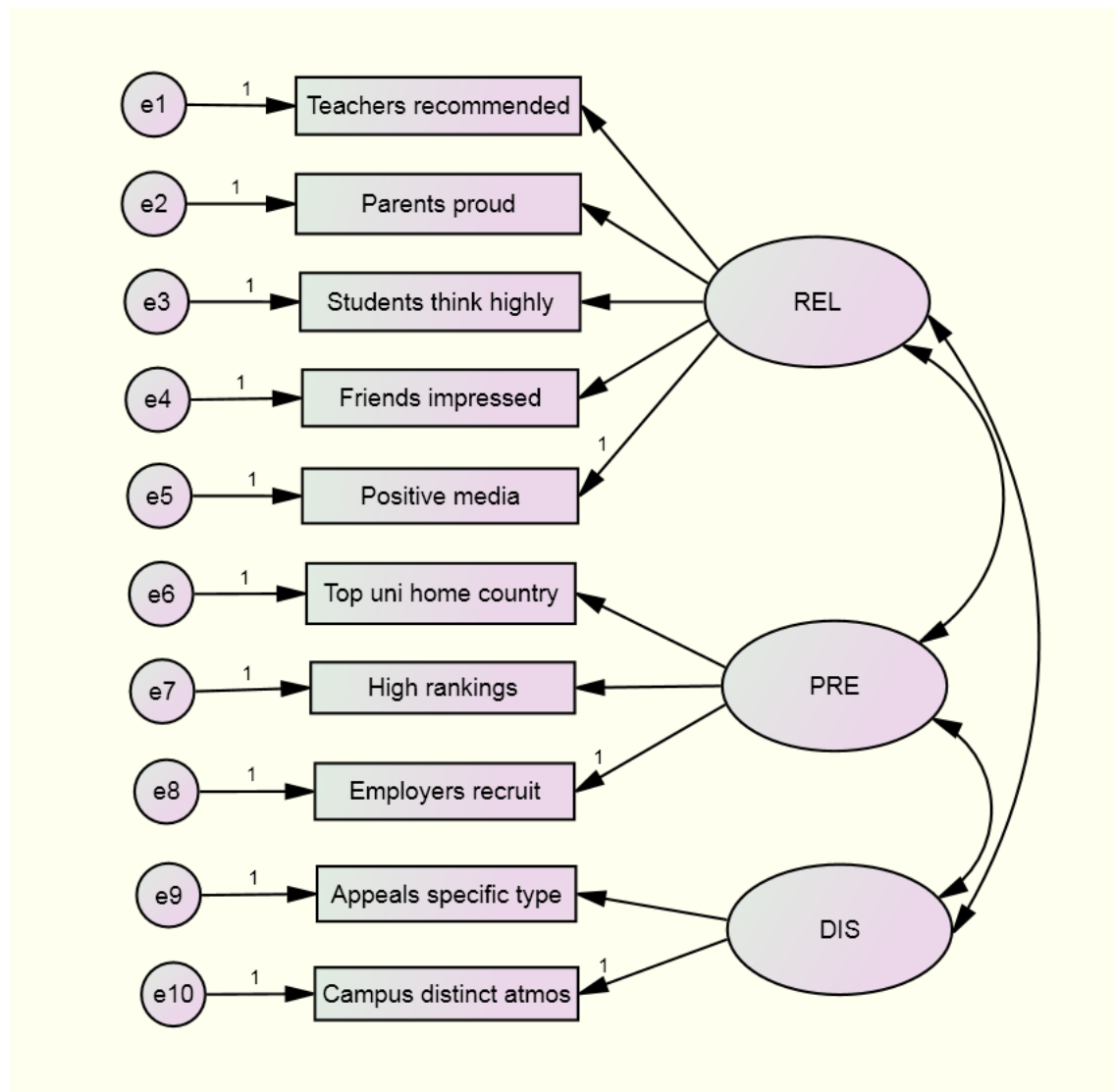


Figure 8. Hypothesised three-factor structure of the 'Student evaluation of image attractiveness' construct.

The model summary notes reveal that the model has 55 distinct sample moments, i.e., elements in the sample covariance matrix, which is the number of pieces of information provided by the data (Figure 9). It has 23 parameters to be estimated, leaving 32 degrees of freedom, which indicates an over-identified model. It has a χ^2 value of 113.03 with a probability level equal to .000.

Notes for Model (Image evaluation)

Computation of degrees of freedom (Image evaluation)

Number of distinct sample moments:	55
Number of distinct parameters to be estimated:	23
Degrees of freedom (55 - 23):	32

Result (Image evaluation perfect correlation)

Minimum was achieved

Chi-square = 113.033

Degrees of freedom = 32

Probability level = .000

Figure 9. Summary notes for tested model: Student evaluation of image attractiveness.

Model fit tests indicate the degree to which the covariance matrix generated by the model corresponds to the observed/sample covariance matrix. The null hypothesis of equal covariance matrices is not rejected if $p > .05$. The χ^2 value (discrepancy) is 113.03 (shown as CMIN in Figure 10) with a p -value $< .001$. Thus, the null hypothesis is rejected. However, with large samples, as in this research, it is not uncommon for the χ^2 statistic to indicate poor fit when, in fact, fit is adequate. For this reason, the alternative fit indices are examined. Although they all meet the cut-values proposed by at least one well-known researcher, none of the indices except the comparative fit index (CFI) satisfied the cut-criteria specified for this research in Table 8.

At this point, some researchers might have considered abandoning this model even though across all the fit indices, moderate fit can be assumed. As the model was known to be over-identified, it made sense to conduct a specification search to see if any minor change(s) could be made to the hypothesised model that would result in improved fit. Of course, there had to be a theoretical justification for any change(s) made.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Image evaluation perfect correlation	23	113.033	32	.000	3.532
Saturated model	55	.000	0		
Independence model	10	1858.196	45	.000	41.293

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Image evaluation perfect correlation	.939	.914	.956	.937	.955
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Image evaluation perfect correlation	.081	.065	.098	.001
Independence model	.324	.312	.337	.000

Figure 10. Model fit: Student evaluation of image attractiveness.

Even though Hair et al. (2010) recommend against making unnecessary or theoretically unsound changes to models, they say that modification indices of 4.0 or greater could make a worthwhile improvement to model fit by freeing the corresponding path to be estimated. AMOS displays only those relationships with a modification index value of 4 or higher. Modifying a model by allowing connections between pairs of error terms is a commonly used method to improve model fit, which appears generally acceptable to most researchers (Janssens et al. 2008; Byrne 2010).

The modification indices were examined to identify suitable and appropriate model changes. For example, although the modification index for $e4 \leftrightarrow e7$ is 8.09, and therefore sufficiently large to consider freeing the path, these error terms are related to different indicators – $e4$ to REL and $e7$ to PRE – so it would make no theoretical sense to link them. The relationships highlighted in Figure 11 are the paths that the researcher decided to free, as these changes appeared to make logical sense and the benefit of improvement in model fit was considered to outweigh the theoretical arguments against making the changes.

Modification Indices (Group number 1 - Image evaluation)

Covariances: (Group number 1 - Image evaluation)

	M.I.	Par Change
e6 <--> PRE	7.212	.114
e6 <--> REL	8.567	-.139
e6 <--> e9	6.957	.213
e6 <--> e10	5.905	-.175
e7 <--> e9	5.878	-.170
e7 <--> e6	7.253	.159
e8 <--> DIS	7.100	.198
e8 <--> PRE	15.584	-.173
e8 <--> REL	11.138	.161
e8 <--> e10	5.753	.175
e8 <--> e7	11.292	-.207
e1 <--> PRE	6.501	-.126
e1 <--> e6	6.410	-.206

	M.I.	Par Change
e1 <--> e8	4.000	.164
e2 <--> e1	5.353	.185
e4 <--> e7	8.089	.171
e4 <--> e1	11.582	-.261
e5 <--> DIS	5.875	.178
e5 <--> e10	5.302	.166
e5 <--> e1	4.043	.163

Figure 11. Modification indices and parameter change statistics: Student evaluation of image attractiveness.

Byrne (2010, p. 89) argues that once a researcher respecifies and reestimates a model, the research changes from confirmatory to exploratory model. Models that are changed considerably may become overfitted, i.e., they are made to fit the current sample well but the results might not be replicable with other samples. The only changes made to models in this research were allowing correlations between suitable pairs of error terms, which are considered minor modifications, and a second sample was created from the dataset to test replicability.

After making the changes suggested by the specification search, the revised model looked as shown in Figure 12 (which also shows the standardised estimates). Estimates were obtained for the respecified model. Figure 13 shows the model fit statistics and Figure 14 the estimated regression weights and squared multiple correlations.

Figure 13 reveals that the fit of the respecified model has improved considerably so that all of the indices apart from the χ^2 statistic have now achieved the cut-values specified for this research in Table 8. Given that this research has a sample size of 384, it is not expected that the χ^2 test will yield a favourable value for any of the constructs or the model as a whole. However, the values of χ^2/df , NFI, CFI and RMSEA all improved considerably to now indicate a model with good fit.

The critical ratio for every parameter is > 1.96 and significant, and the correlation between each indicator and its associated latent variable is greater than .50 (the standardised regression weights), indicating good convergent validity (Figure 11).

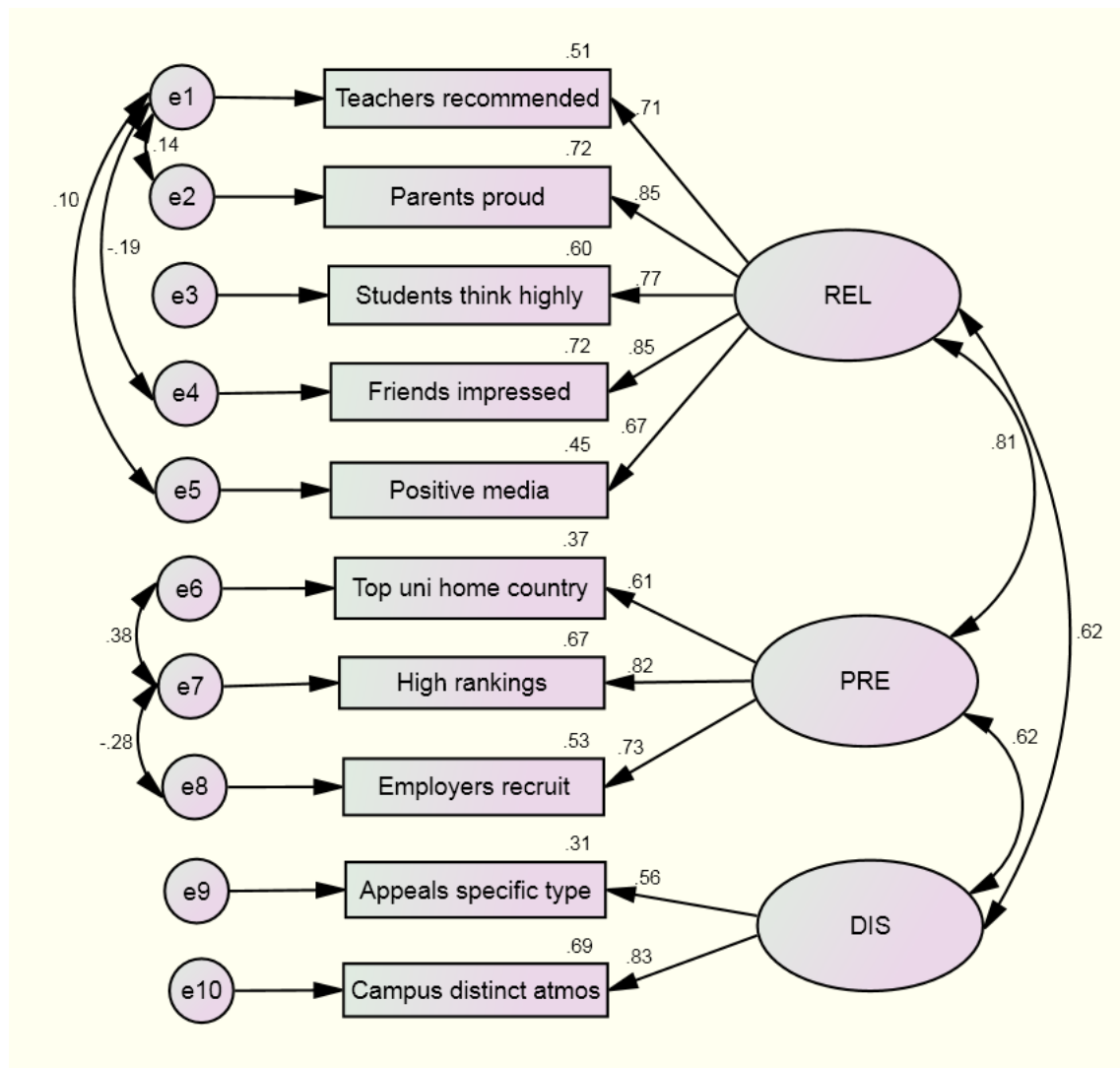


Figure 12. Respecified model for 'Student evaluation of image attractiveness', showing standardised estimates.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Image evaluation perfect correlation	28	54.670	27	.001	2.025
Saturated model	55	.000	0		
Independence model	10	1858.196	45	.000	41.293

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Image evaluation perfect correlation	.971	.951	.985	.975	.985
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Image evaluation perfect correlation	.052	.032	.071	.415
Independence model	.324	.312	.337	.000

Figure 13. Model fit for respecified model: Student evaluation of image attractiveness.

Regression Weights: (Group number 1 - Image evaluation)

	Estimate	S.E.	C.R.	P	Label
q53 <--- REL	1.000				
q43 <--- REL	1.505	.106	14.204	***	
q66 <--- REL	1.329	.101	13.210	***	
q51 <--- REL	1.656	.117	14.173	***	
q52 <--- REL	1.250	.101	12.426	***	
q62 <--- PRE	1.000				
q46 <--- PRE	1.211	.104	11.607	***	
q45 <--- PRE	.917	.096	9.541	***	
q59 <--- DIS	1.000				
q58 <--- DIS	.694	.092	7.533	***	

Standardized Regression Weights: (Group number 1 - Image evaluation)

	Estimate
q53 <--- REL	.667
q43 <--- REL	.851
q66 <--- REL	.774
q51 <--- REL	.848
q52 <--- REL	.713
q62 <--- PRE	.726
q46 <--- PRE	.818
q45 <--- PRE	.607
q59 <--- DIS	.830
q58 <--- DIS	.559

Squared Multiple Correlations: (Group number 1 - Image evaluation perfect correlation)

	Estimate
q58 DIS	.313
q59 DIS	.689
q45 PRE	.368
q46 PRE	.670
q62 PRE	.527
q52 REL	.509

	Estimate
q51 REL	.720
q66 REL	.599
q43 REL	.724
q53 REL	.445

Figure 14. Estimates for respecified model: Student evaluation of image attractiveness.

Composite reliability was calculated manually for each indicator using the following formula:

$$\frac{(\sum \text{standardised loadings})^2}{(\sum \text{standardised loadings})^2 + \sum \text{measurement errors}}$$

Reliability of Relevant others (REL)

Sum of the standardised loadings = (.667 + .851 + .774 + .848 + .713) = 3.853

$$3.853^2 = 14.846$$

Sum of 1 – squared multiple correlations = (1 - .509) + (1 - .720) + (1 - .599) + (1 - .724) + (1 - .445) = 2.003

14.846 / (14.846 + 2.003) = **.881**, indicating that REL has good reliability.

Prestige (PRE)

Sum of the standardised loadings = (.726 + .818 + .607) = 2.151

$$2.151^2 = 4.627$$

Sum of 1 – squared multiple correlations = (1 - .368) + (1 - .670) + (1 - .527) = 1.435

4.627 / (4.627 + 1.435) = **.763**, indicating that PRE has good reliability.

Distinctiveness (DIS)

Sum of the standardised loadings = (.830 + .559) = 1.389

$$1.389^2 = 1.929$$

Sum of 1 – squared multiple correlations = (1 - .313) + (1 - .689) = .998

1.929 / (1.929 + .998) = **.659**, indicating that DIS has acceptable reliability (given that the indicator has only two measures).

Finally, to test for discriminant validity, a perfectly correlated model for *Student evaluation of image attractiveness* was created and compared against the model where traits correlated freely. The larger the discrepancy between the χ^2 and CFI values, the stronger the support for evidence of discriminant validity. Figure 15 shows an extract of the model fit results for the perfectly correlated model. The analysis is as follows:

$$\Delta \chi^2 = 156.34$$

$$\Delta df = 10$$

$$p < .001$$

$$\text{i.e. } \Delta \chi^2_{(10)} = 156.34, p < .001$$

$$\Delta \text{CFI} = 0.081$$

These results indicate that the model possesses discriminant validity.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	18	211.509	37	.000	5.716
Saturated model	55	.000	0		
Independence model	10	1858.196	45	.000	41.293

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.886	.862	.904	.883	.904
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Figure 15: Model fit statistics for perfectly correlated model: Student evaluation of image attractiveness.

Given that the *Student evaluation of image attractiveness* model is over-identified and has displayed good model fit, convergent validity, reliability and discriminant validity, it was considered suitable for inclusion in the overall measurement model. The process of evaluation for *Student evaluation of image attractiveness* was repeated for *Student-university*

identification and *Student's supportive intentions* to confirm the efficacy of all three constructs and their suitability for inclusion in the overall measurement model.

8.10 Student-university identification

This section provides only the data and analysis related to the final respecified model. The only (minor) changes made to the original model were allowing correlations between suitable pairs of error terms. Figure 16 depicts the final model structure for *Student-university identification*. The indicators are *Self-esteem* (EST), *Saliency* (SAL) and *Similarity* (SIM).

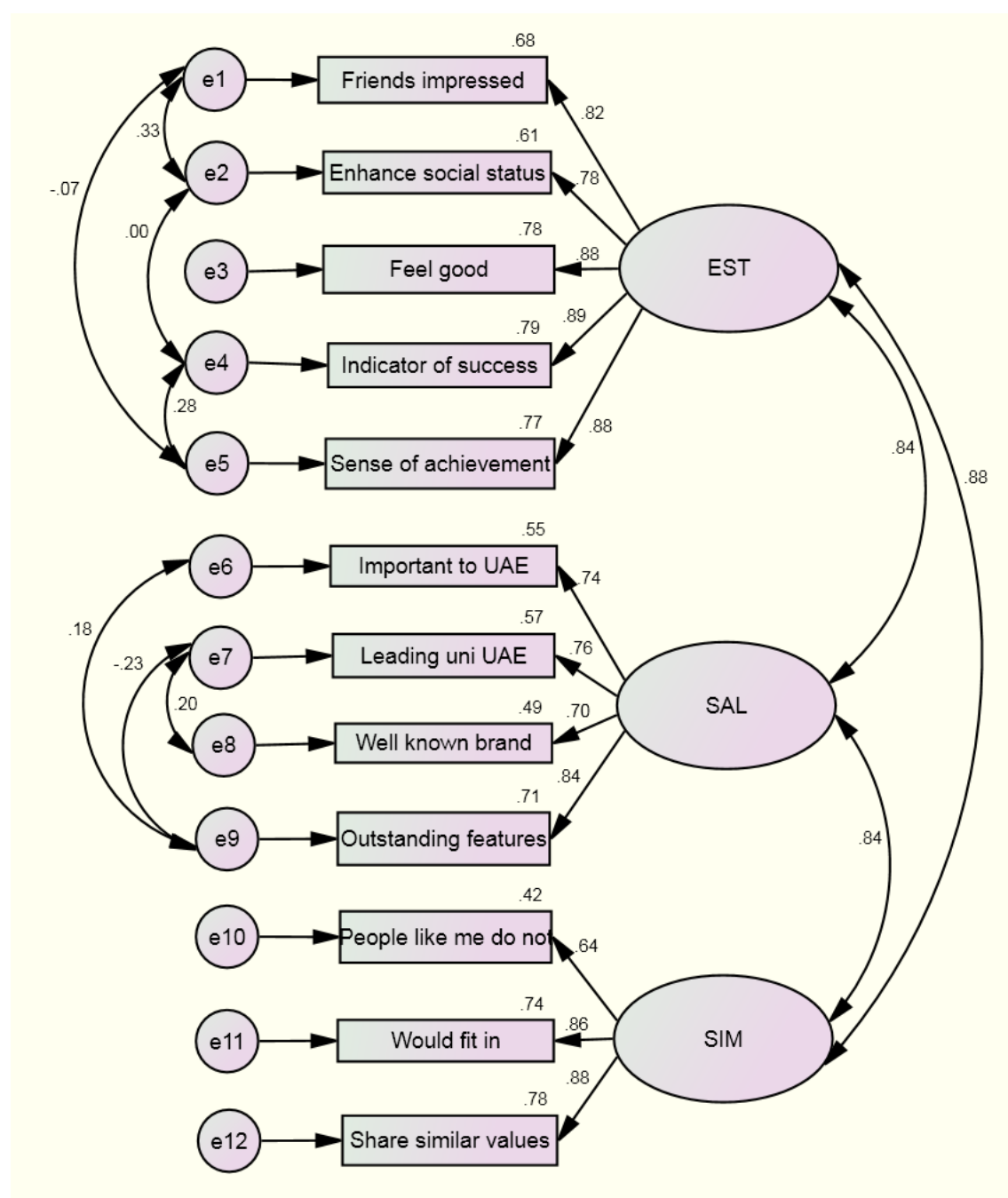


Figure 16. Final model for 'Student-university identification', showing standardised estimates.

The model summary notes reveal that the model has 78 distinct sample moments, i.e., elements in the sample covariance matrix, which is the number of pieces of information provided by the data (Figure 17). It has 34 parameters to be estimated, leaving 44 degrees of freedom, which indicates an over-identified model. It has a χ^2 value of 108.27 with a probability level equal to .000.

Notes for Model (Student-university identification)

Computation of degrees of freedom (Student-university identification)

Number of distinct sample moments: 78
 Number of distinct parameters to be estimated: 34
 Degrees of freedom (78 - 34): 44

Result (Student-university identification)

Minimum was achieved
 Chi-square = 108.266
 Degrees of freedom = 44
 Probability level = .000

Figure 17. Summary notes for final model: Student-university identification

The fit indices indicate that the *Student-university identification* model has good fit to the observed data (Figure 18). As expected, given the large sample size, the χ^2 statistic has produced an unfavourable significant result, but the χ^2/df statistic, with a value of 2.46, falls below the specified cut-value of 3. The baseline comparison statistics – NFI and CFI – have both produced values comfortably above the .95 cut-value, and the RMSEA, with a value of .06, is below the specified cut-value of .08.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Student-university identification	34	108.266	44	.000	2.461
Saturated model	78	.000	0		
Independence model	12	3620.749	66	.000	54.860

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Student-university identification	.970	.955	.982	.973	.982
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Student-university identification	.062	.047	.077	.090
Independence model	.375	.365	.385	.000

Figure 18. Model fit for final model: Student-university identification.

The critical ratio for every parameter is > 1.96 and significant, and the correlation between each indicator and its associated latent variable is greater than .50 (the standardised regression weights), indicating good convergent validity (Figure 19).

Composite reliability for each indicator of *Student-university identification* was calculated as follows:

Self-esteem (EST)

$11.343 / (11.343 + 1.381) = .891$, indicating that EST has good reliability.

Saliency (SAL)

$9.254 / (9.254 + 1.677) = .847$, indicating that SAL has good reliability.

Similarity (SIM)

$5.679 / (5.679 + 1.072) = .841$, indicating that SIM has good reliability.

Regression Weights: (Group number 1 – Student-university identification)

	Estimate	S.E.	C.R.	P	Label
q89 <--- EST	1.000				
q84 <--- EST	.793	.041	19.227	***	
q85 <--- EST	.899	.043	21.062	***	
q69 <--- SAL	1.000				
q77 <--- SAL	.830	.060	13.792	***	

	Estimate	S.E.	C.R.	P	Label
q86 <--- SAL	.976	.069	14.161	***	
q68 <--- SAL	.977	.057	17.233	***	
q71 <--- SIM	1.000				
q70 <--- SIM	1.030	.047	21.731	***	
q83 <--- SIM	.709	.050	14.063	***	
q73 <--- EST	.977	.040	24.155	***	
q76 <--- EST	1.000	.043	23.505	***	

Standardized Regression Weights: (Group number 1 – Student-university identification)

	Estimate
q89 <--- EST	.881
q84 <--- EST	.782
q85 <--- EST	.823
q69 <--- SAL	.841
q77 <--- SAL	.700
q86 <--- SAL	.756
q68 <--- SAL	.745
q71 <--- SIM	.881
q70 <--- SIM	.858
q83 <--- SIM	.644
q73 <--- EST	.886
q76 <--- EST	.877

Squared Multiple Correlations: (Group number 1 – Student-university identification)

	Estimate
q76	.768
q73	.785
q83	.415
q70	.737
q71	.776
q68	.554
q86	.571
q77	.490
q69	.708
q85	.677
q84	.612
q89	.777

Figure 19. Estimates for final model: Student university-identification.

To test for discriminant validity, a perfectly correlated model for *Student-university identification* was created and compared against the model where traits correlated freely. The

larger the discrepancy between the χ^2 and CFI values, the stronger the support for evidence of discriminant validity. The results were as follows:

$$\Delta \chi^2 = 244.17$$

$$\Delta df = 12$$

$$p < .001$$

$$\text{i.e. } \Delta \chi^2_{(12)} = 244.17, p < .001$$

$$\Delta \text{CFI} = 0.065$$

These results indicate that the model possesses discriminant validity.

Given that the *Student-university identification* model is over-identified and has displayed good model fit, convergent validity, reliability and discriminant validity, it was considered suitable for inclusion in the overall measurement model.

8.11 Students' supportive intentions

This section provides only the data and analysis related to the final respecified model. The only (minor) changes made to the original model were allowing correlations between suitable pairs of error terms. Figure 20 depicts the final model structure for *Student's supportive intentions*. The indicators are *Attachment/membership* (ATT), *Beneficial behaviours* (BEN), *Positive Involvement* (INV).

The model summary notes reveal that the model has 78 distinct sample moments, i.e., elements in the sample covariance matrix, which is the number of pieces of information provided by the data (Figure 21). It has 34 parameters to be estimated, leaving 44 degrees of freedom, which indicates an over-identified model. It has a χ^2 value of 152.81 with a probability level equal to .000.

The fit indices indicate that the *Student's supportive intentions* model has reasonably good fit to the observed data (Figure 22). As expected, given the large sample size, the χ^2 statistic has produced an unfavourable significant result and the χ^2/df statistic, with a value of 3.47, is above the specified cut-value of 3 but is within the < 5 deemed acceptable by Schumacker and Lomax 2004. The baseline comparison statistics – NFI and CFI – have both produced values comfortably above the .95 cut-value, and the RMSEA, with a value of .08, has met the specified cut-value of .08.

The critical ratio for every parameter is > 1.96 and significant, and the correlation between each indicator and its associated latent variable is greater than .50 (the standardised regression weights), indicating good convergent validity (Figure 23).

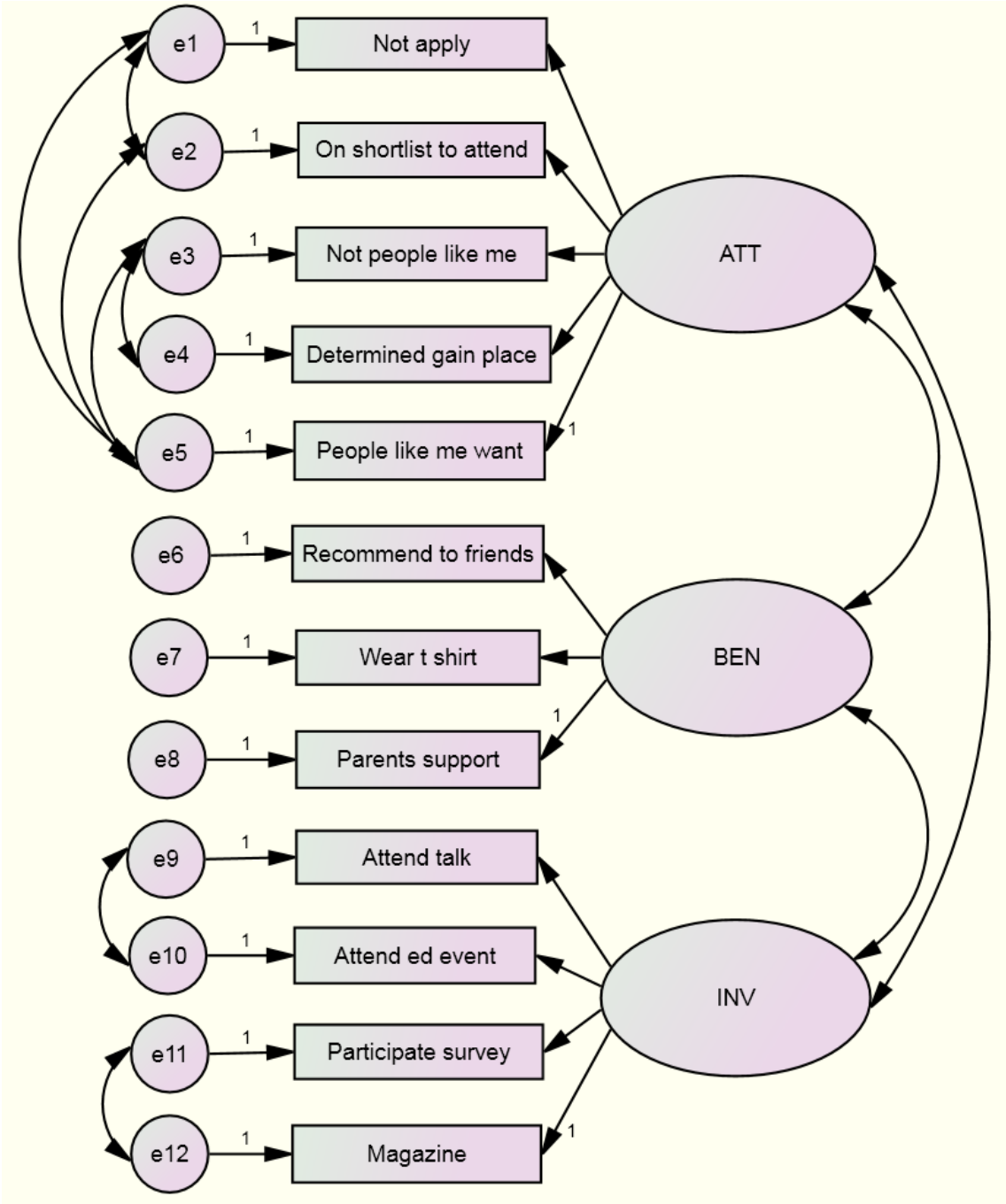


Figure 20. Final model for 'Student's supportive intentions', showing standardised estimates.

Notes for Model (supportive intentions)**Computation of degrees of freedom (supportive intentions)**

Number of distinct sample moments: 78
Number of distinct parameters to be estimated: 34
Degrees of freedom (78 - 34): 44

Result (supportive intentions)

Minimum was achieved
Chi-square = 152.807
Degrees of freedom = 44
Probability level = .000

Figure 21. Summary notes for final model: Student's supportive intentions.

Model Fit Summary**CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
supportive intentions	34	152.807	44	.000	3.473
Saturated model	78	.000	0		
Independence model	12	4366.959	66	.000	66.166

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
supportive intentions	.965	.948	.975	.962	.975
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
supportive intentions	.080	.067	.094	.000
Independence model	.412	.402	.423	.000

Figure 22. Model fit for final model: Student's supportive intentions.

Regression Weights: (Group number 1 - supportive intentions)

	Estimate	S.E.	C.R.	P	Label
q94 <--- ATT	1.000				
q92 <--- ATT	1.073	.037	28.791	***	
q104 <--- ATT	.850	.035	24.537	***	
q90 <--- ATT	1.096	.041	26.761	***	
q97 <--- ATT	1.169	.046	25.314	***	
q108 <--- BEN	1.000				
q107 <--- BEN	.931	.062	15.032	***	
q93 <--- BEN	1.215	.059	20.767	***	
q105 <--- INV	1.000				
q103 <--- INV	1.053	.056	18.839	***	
q95 <--- INV	1.069	.067	16.062	***	
q99 <--- INV	.854	.066	12.923	***	

Standardized Regression Weights: (Group number 1 - supportive intentions)

	Estimate
q94 <--- ATT	.909
q92 <--- ATT	.917
q104 <--- ATT	.825
q90 <--- ATT	.924
q97 <--- ATT	.899
q108 <--- BEN	.798
q107 <--- BEN	.705
q93 <--- BEN	.897
q105 <--- INV	.762
q103 <--- INV	.813
q95 <--- INV	.823
q99 <--- INV	.678

Squared Multiple Correlations: (Group number 1 - supportive intentions)

	Estimate
q99	.460
q95	.677
q103	.660
q105	.581
q93	.805
q107	.497
q108	.636
q97	.808
q90	.853
q104	.681
q92	.841

	Estimate
q94	.826

Figure 23. Estimates for final model: Student's supportive intentions.

Composite reliability for each indicator of *Student's supportive intentions* was calculated as follows:

Attachment/membership (ATT)

$20.017 / (20.017 + 1.817) = .917$, indicating that ATT has good reliability.

Beneficial behaviours (BEN)

$5.760 / (5.760 + 1.059) = .845$, indicating that BEN has good reliability.

Involvement (INV)

$9.461 / (9.461 + 0.799) = .922$, indicating that INV has good reliability.

To test for discriminant validity, a perfectly correlated model for *Student's supportive intentions* was created and compared against the model where traits correlated freely. The larger the discrepancy between the χ^2 and CFI values, the stronger the support for evidence of discriminant validity. The results were as follows:

$$\Delta \chi^2 = 321.63$$

$$\Delta df = 12$$

$$p < .001$$

$$\text{i.e. } \Delta \chi^2_{(12)} = 321.63, p < .001$$

$$\Delta \text{CFI} = 0.072$$

These results indicate that the model possesses discriminant validity.

Given that the *Student's supportive intentions* model is over-identified and has displayed reasonably good model fit, convergent validity, reliability and discriminant validity, it was considered suitable for inclusion in the overall measurement model. Thus, the efficacy of all three latent variables – *Student evaluation of university image attractiveness*, *Student-university identification* and *Student's supportive intentions* – was confirmed and the full measurement model was ready to be assembled and tested.

8.12 Measurement model: assessment of model fit

Figure 24 shows the full measurement model, consisting of three latent variables and the nine indicators.

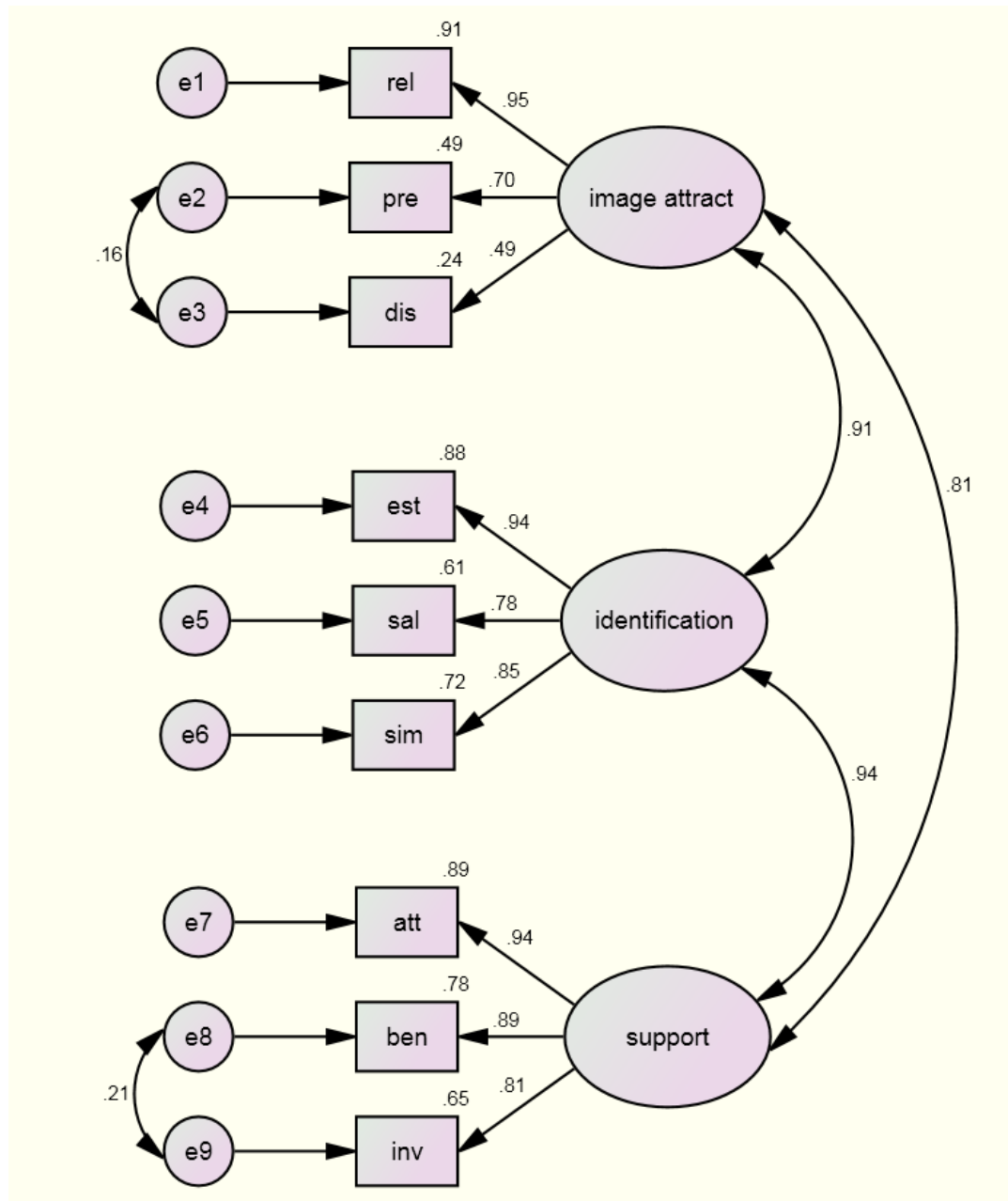


Figure 24. Variables of the full measurement model, showing standardised estimates.

It is now standard practice for researchers to test the full measurement model before specifying and testing the structural model. By identifying the extent of measurement error, assessment of the full measurement model using confirmatory factor analysis allowed the researcher to be confident about the model's construct validity and reliability (Hair et al. 2010, p. 632, p. 636). In sections 8.9-8.11, it was the factorial validity of the hypothesised latent constructs that was tested, which Byrne (2010) names 'first-order confirmatory factor

analysis'. In this section, second-order confirmatory factor analysis was performed, as *Student-university identification* and *Student's supportive intentions* are second-order factors.

The model summary notes reveal that the model has 45 distinct sample moments and 23 parameters to be estimated, leaving 22 degrees of freedom, which indicates an over-identified model (Figure 25). It has a χ^2 value of 93.77 with a probability level equal to .000.

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 45
 Number of distinct parameters to be estimated: 23
 Degrees of freedom (45 - 23): 22

Result (Default model)

Minimum was achieved
 Chi-square = 93.774
 Degrees of freedom = 22
 Probability level = .000

Figure 25. Summary notes for full measurement model.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	23	93.774	22	.000	4.262
Saturated model	45	.000	0		
Independence model	9	2976.298	36	.000	82.675

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.968	.948	.976	.960	.976
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.092	.074	.112	.000
Independence model	.462	.448	.476	.000

Figure 26. Model fit for full measurement model.

Table 9 provides the goodness-of-fit test results for the full measurement model and a summary of how they have been interpreted. While the absolute fit indices (χ^2 , χ^2/df and RMSEA) have not met the stringent cut-criteria specified for this research, the incremental fit indices (NFI and CFI) have met the cut-criteria. Hair et al. (2010, p. 678) state that it is not appropriate to rigidly apply a set of cut-criteria across a range of fit tests.

Table 9. Goodness-of-fit test results for the full measurement model.

Test	Specified cut-value	Test result	Comment
χ^2	> .05	.000	Given the large sample size of 384 it is usual for this test to indicate poor fit.
χ^2/df	< 3	4.262	The result is beyond the cut-value specified for this research, but within the < 5 limit proposed by Shumacker and Lomax (2004).
RMSEA	< .08	.092	The result is beyond the cut-value specified for this research, but within the .10 limit proposed by Browne and Cudeck (1993).
NFI	> .95	.968	The NFI incremental fit index has produced a result indicating good model fit.
CFI	> .95	.976	The CFI incremental fit index has produced a result indicating good model fit.

The specified cut-values specified in Table 8 are 'target' values. Given that both the normed-chi square (χ^2/df) and root mean square error of approximation (RMSEA) test results would have been acceptable to some other researchers, it was decided to accept the model as possessing reasonable or moderate fit to the observed data.

The critical ratio for every parameter is > 1.96 and significant, and the correlation between all but one indicator and its associated latent variable is greater than .50 (the standardised regression weights), indicating good convergent validity (Figure 27). The correlation between

Distinctiveness and *Image attractiveness* of .49 was deemed to be close enough to .50 to be acceptable.

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
dis <--- image attract	1.000				
pre <--- image attract	1.419	.142	9.979	***	
rel <--- image attract	2.253	.221	10.211	***	
sim <--- identification	1.000				
sal <--- identification	.789	.042	18.845	***	
est <--- identification	1.179	.046	25.876	***	
inv <--- support	1.000				
ben <--- support	1.161	.049	23.465	***	
att <--- support	1.337	.060	22.423	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
dis <--- image attract	.494
pre <--- image attract	.697
rel <--- image attract	.954
sim <--- identification	.848
sal <--- identification	.783
est <--- identification	.937
inv <--- support	.808
ben <--- support	.885
att <--- support	.941

Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
image attract <--> identification	.749	.095	7.871	***	
identification <--> support	1.539	.140	11.025	***	
image attract <--> support	.640	.085	7.553	***	
e3 <--> e2	.163	.056	2.896	.004	
e9 <--> e8	.149	.048	3.117	.002	

Correlations: (Group number 1 - Default model)

	Estimate
image attract <--> identification	.910
identification <--> support	.944
image attract <--> support	.813
e3 <--> e2	.160
e9 <--> e8	.214

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
image attract	.397	.080	4.976	***	
identification	1.704	.166	10.239	***	
support	1.561	.166	9.404	***	
e3	1.231	.091	13.474	***	
e2	.844	.067	12.639	***	
e1	.199	.066	3.004	.003	
e6	.664	.055	12.075	***	
e5	.668	.052	12.771	***	
e4	.328	.040	8.175	***	
e9	.829	.070	11.845	***	
e8	.582	.057	10.296	***	
e7	.360	.053	6.810	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
Att SUPPORT	.886
Ben SUPPORT	.783
Inv SUPPORT	.653
Est STUD-UNI IDENT	.878
Sal STUD-UNI IDENT	.614
Sim STUD-UNI IDENT	.720
Rel IMAGE ATTRACT	.910
Pre IMAGE ATTRACT	.486
Dis IMAGE ATTRACT	.244

Figure 27. Estimates for full measurement model.

Composite reliability for latent variable in the full measurement model was calculated as follows:

Image attractiveness

$4.601 / (4.601 + 1.36) = .772$, indicating that this variable has good reliability.

Student-university identification

$6.600 / (6.600 + .788) = .893$, indicating that this variable has good reliability.

Student's supportive intentions

$6.938 / (6.938 + .678) = .911$, indicating that this variable has good reliability.

To test for discriminant validity, a perfectly correlated model was created and compared against the model where traits correlated freely. The larger the discrepancy between the χ^2 and CFI values, the stronger the support for evidence of discriminant validity. The results were as follows:

$$\Delta \chi^2 = 346.85$$

$$\Delta df = 9$$

$$p < .001$$

$$\text{i.e. } \Delta \chi^2_{(9)} = 346.85, p < .001$$

$$\Delta \text{CFI} = 0.119$$

These results indicate that the model possesses discriminant validity.

Given that the full measurement model was over-identified and displayed convergent validity, reliability, discriminant validity and acceptable model fit, it was then possible to proceed and specify the structural model.

8.13 Structural model: testing the hypotheses

The measurement model allowed the researcher to ensure that the latent constructs were being measured in a reliable and valid manner. Once this was confirmed, the structural model could be specified. A structural model is a conceptual representation of the structural relationships between latent constructs. The structural model can be displayed as a visual diagram, which represents a set of structural equations. The structural relationship between any two constructs is represented empirically by the structural parameter estimate, also known as a path estimate (Hair et al. 2010).

While measurement models typically represent non-causal or correlational relationships between constructs, the structural model aims to establish the 'causal' relationships between constructs. In Section 7.4.2, a simple regression model suggested that there was a link between perceived university image attractiveness and attachment/membership intentions. Although exploratory factor analysis identified *Relevant others*, *Prestige* and *Distinctiveness* as the factors that underlay the image attractiveness construct, regression analysis found that *Prestige* and *Distinctiveness* were not significant at the .05 level.

The *Prestige* and *Distinctiveness* variables were not discarded because (1) they are suggested in the literature as relevant variables in determining organisational identification (Mael and Ashforth 1992; Bhattacharya and Sen 2003; Kim et al 2010), (2) exploratory factor

analysis found that they were related to the latent construct, (3) the pilot study suggested that they were important, and (4) without the two variables the construct measurement model would have been under-identified.

The structural model adds further sophistication to the earlier analysis by recognising that individuals can ‘support’ an institution without necessarily becoming a student at that institution.

A simple structural model was created to test the hypothesis that a student’s perception of university image attractiveness is positively related to their intention to support that institution (Hypothesis 9). The model is depicted in Figure 28.

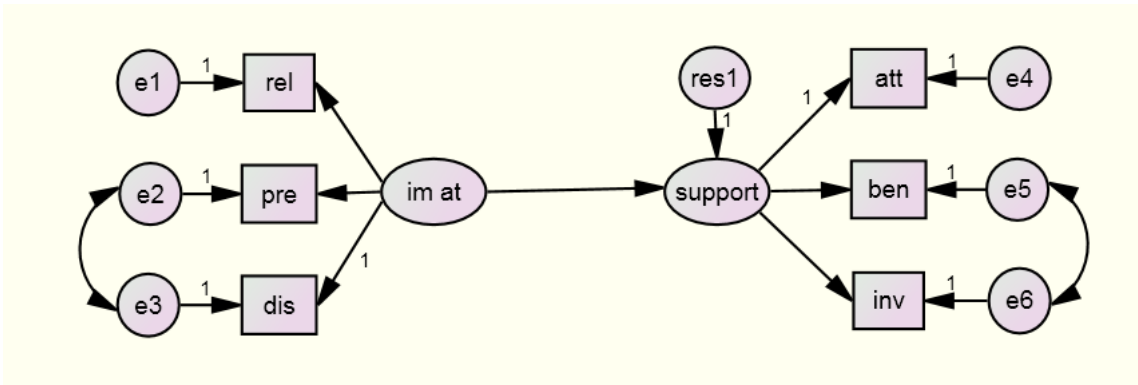


Figure 28. Structural model with ‘Student’s evaluation of university image attractiveness’ and ‘Student’s supportive intentions’ as the only latent variables.

The structural model with *Student’s evaluation of university image attractiveness* and *Student’s supportive intentions* as the only latent variables appeared, according to the fit indices, to have good fit to the observed data. All of the target cut-values specified in Table 8 have been met (Figure 29).

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	15	8.798	6	.185	1.466
Saturated model	21	.000	0		
Independence model	6	1373.070	15	.000	91.538

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.994	.984	.998	.995	.998
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.035	.000	.081	.648
Independence model	.486	.465	.508	.000

Figure 29. Model fit for structural model with ‘Student’s evaluation of university image attractiveness’ and ‘Student’s supportive intentions’ as the only latent variables.

The critical ratio for every parameter is > 1.96 and significant, and the correlation between all but one indicator and its associated latent variable is greater than .50 (the standardised regression weights), indicating good convergent validity (Figure 30). The correlation between *Distinctiveness* and *Image attractiveness* of .48 was deemed to be close enough to .50 to be acceptable. Most importantly, the relationship between *Image attractiveness* and *Supportive intentions* is positive and significant, offering support for Hypothesis 9.

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
support <--- im at	2.140	.221	9.690	***	
dis <--- im at	1.000				
rel <--- im at	2.412	.250	9.644	***	
pre <--- im at	1.371	.136	10.059	***	
att <--- support	1.000				
inv <--- support	.718	.037	19.262	***	
ben <--- support	.710	.038	18.608	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
support <--- im at	.775
dis <--- im at	.484
rel <--- im at	1.000
pre <--- im at	.660
att <--- support	.960

		Estimate
inv	<--- support	.791
ben	<--- support	.775

Figure 30. Estimates for structural model with ‘Student’s evaluation of university image attractiveness’ and ‘Student’s supportive intentions’ as the only latent variables.

Next, the *Student-university identification* variable was added to the structural model to discover whether it was positively related to perceived *Image attractiveness* (Hypothesis 8) and to *Student’s supportive intentions*. Figure 31 shows the model depicting the hypothesised relationships between the three latent variables.

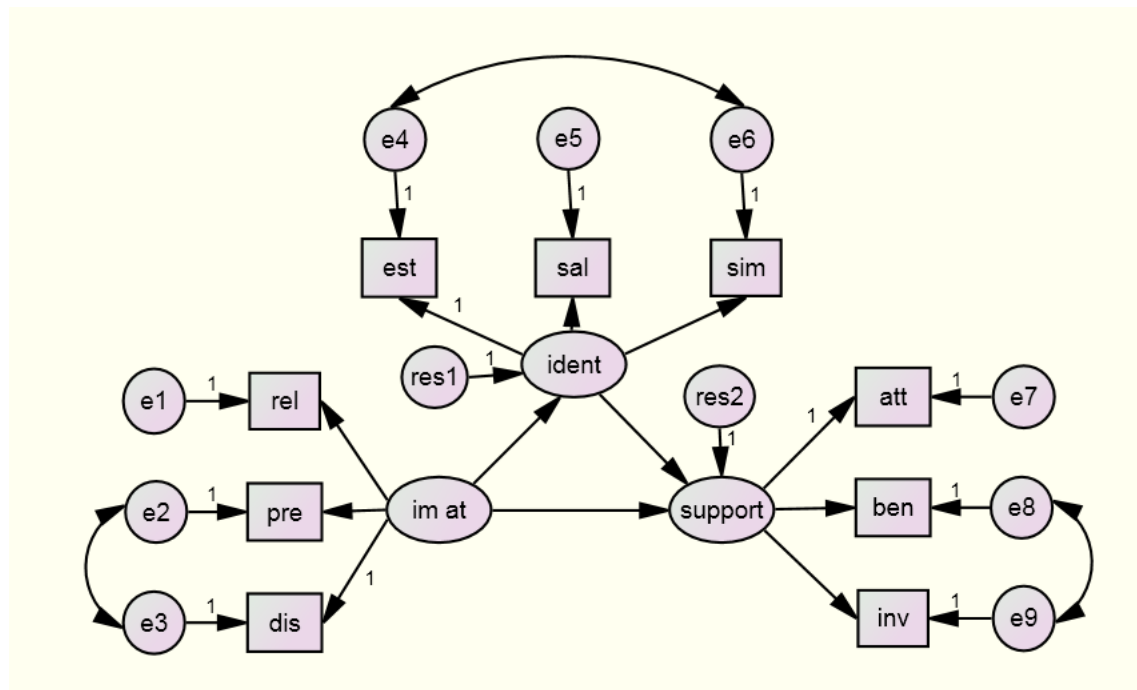


Figure 31. Structural model with three latent constructs showing all hypothesised relationships.

Adding *Student-university identification* to the model worsened model fit ($\Delta \chi^2 = 75.922$, $df = 15$, $p < .001$; $\Delta RMSEA = .054$; $\Delta CFI = -.021$) (Figure 32) and the path between *Student evaluation of image attractiveness* and *Student’s supportive intentions* turned non-significant with the critical ratio falling to a negative number (Figure 33). This means that *Student-university identification* is a mediator, and given that this mediating construct now explains all the changes in *Student’s supportive intentions* without the *Student evaluation of image attractiveness* variable, we can conclude that complete mediation has occurred.

Model Fit Summary**CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	24	84.072	21	.000	4.003
Saturated model	45	.000	0		
Independence model	9	2826.032	36	.000	78.501

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.970	.949	.978	.961	.977
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.089	.069	.109	.001
Independence model	.450	.436	.464	.000

Figure 32. Model fit for structural model with three latent constructs showing all hypothesised relationships.

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
ident <--- im at	2.200	.218	10.078	***	
support <--- ident	1.044	.109	9.555	***	
support <--- im at	-.145	.253	-.572	.568	
dis <--- im at	1.000				
rel <--- im at	2.273	.223	10.191	***	
pre <--- im at	1.410	.141	9.983	***	
att <--- support	1.000				
inv <--- support	.746	.034	22.154	***	
ben <--- support	.740	.035	21.299	***	
est <--- ident	1.000				
sim <--- ident	.859	.034	25.384	***	
sal <--- ident	.656	.031	21.321	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
ident <--- im at	.883
support <--- ident	.979
support <--- im at	-.054
dis <--- im at	.493
rel <--- im at	.961
pre <--- im at	.692
att <--- support	.942
inv <--- support	.806
ben <--- support	.791
est <--- ident	.955
sim <--- ident	.875
sal <--- ident	.782

Figure 33. Estimates for structural model with three latent constructs showing all hypothesised relationships.

Two models were tested (with and without a path between *Student evaluation of image attractiveness* and *Student's supportive intentions*) just in case this path returned to being significant. However, this did not happen, so no further discussion of the model that includes the path between *Student evaluation of image attractiveness* and *Student's supportive intentions* shall be provided hereafter. Hence, all further results and analysis refer to the final structural model as shown in Figure 34. Figure 35 provides details of the indicators used in the final model and also shows the correlational relationships (between error terms).

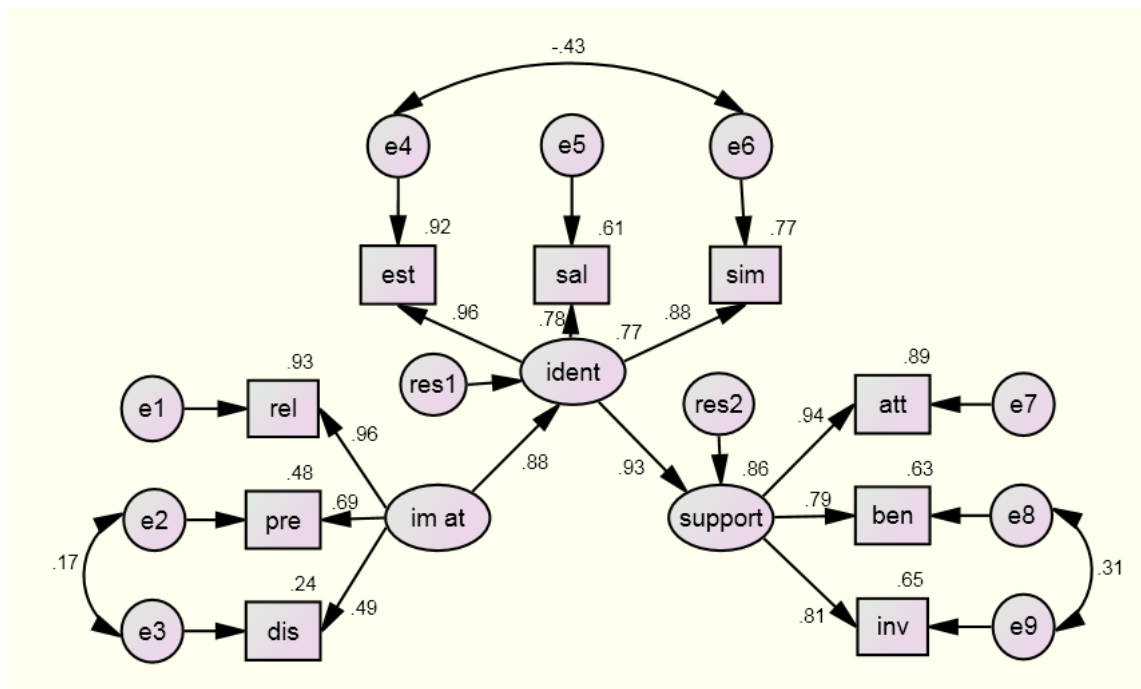


Figure 34. Final structural model, showing standardised estimates.

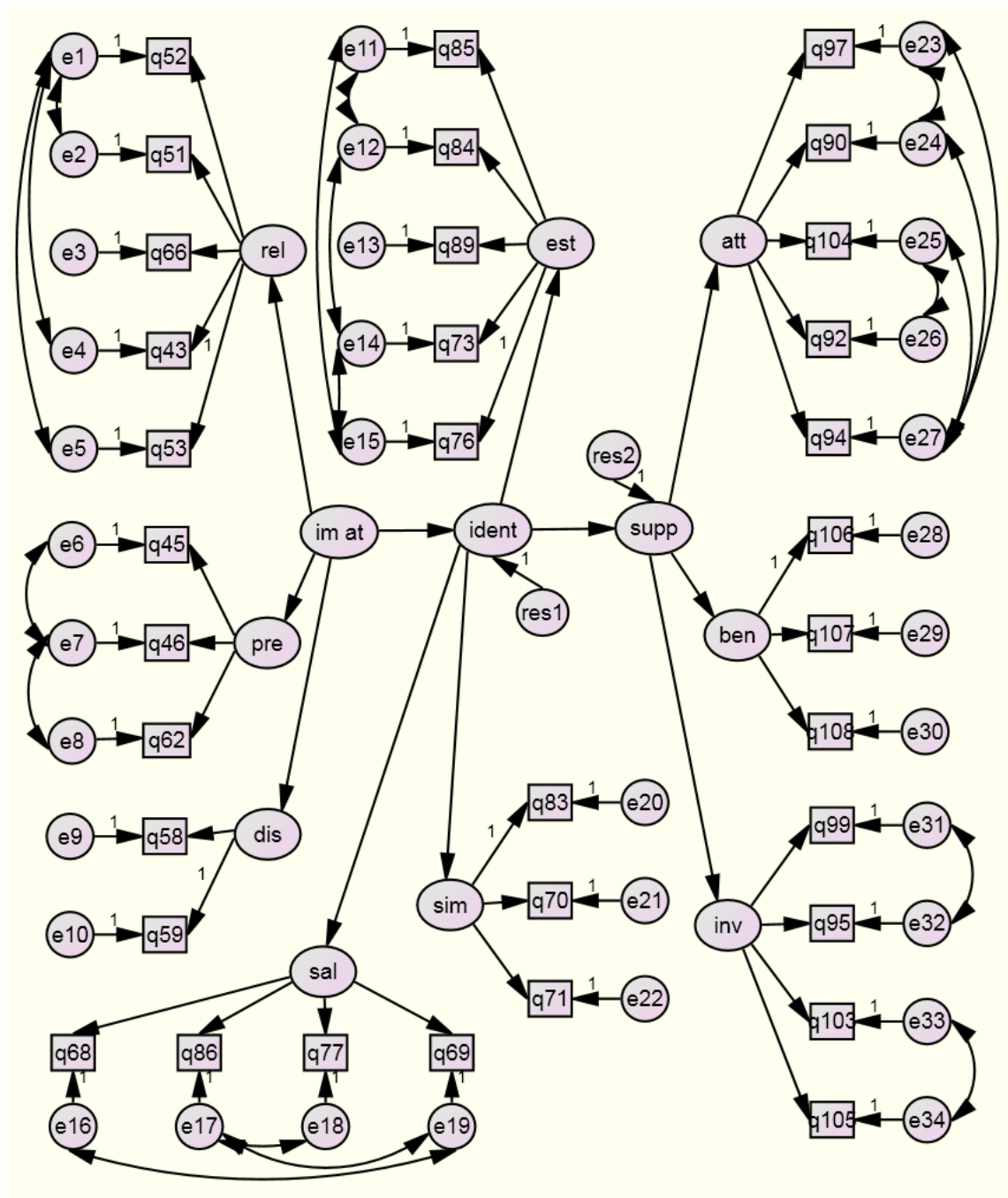


Figure 35. Final structural model showing indicators and correlational relationships.

Figure 36 shows that the absolute fit tests suggest the final structural model has only moderate fit ($\chi^2 = 84.373$, $p < .001$; $\chi^2/df = 3.835$; RMSEA = .086) while the incremental fit indices suggest the model has good fit (NFI = .970; CFI = .978). It was concluded, considering the results of all the tests, that the final model has reasonable or moderate fit. Even the results of the absolute indices fell within the cut-values proposed by other researchers (see Table 8). The critical ratio for every parameter is > 1.96 and significant, and the correlation between all but one indicator and its associated latent variable is greater than .50 (the standardised regression weights), indicating good convergent validity (Figure 37). The correlation between

Distinctiveness and *Image attractiveness* of .49 was deemed to be close enough to .50 to be acceptable.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	23	84.373	22	.000	3.835
Saturated model	45	.000	0		
Independence model	9	2826.032	36	.000	78.501

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.970	.951	.978	.963	.978
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.086	.067	.106	.001
Independence model	.450	.436	.464	.000

Figure 36. Model fit for final structural model.

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
ident <--- im at	2.194	.218	10.073	***	
support <--- ident	.987	.035	28.451	***	
dis <--- im at	1.000				
rel <--- im at	2.280	.224	10.186	***	
pre <--- im at	1.408	.141	9.985	***	
att <--- support	1.000				
inv <--- support	.745	.034	22.146	***	
ben <--- support	.739	.035	21.300	***	
est <--- ident	1.000				
sim <--- ident	.859	.034	25.392	***	
sal <--- ident	.652	.030	21.707	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
ident <--- im at	.876
support <--- ident	.928
dis <--- im at	.492
rel <--- im at	.963
pre <--- im at	.690
att <--- support	.942
inv <--- support	.806
ben <--- support	.791
est <--- ident	.958
sim <--- ident	.878
sal <--- ident	.780

Figure 37. Estimates for final structural model.

Now that the final structural model was specified, the hypotheses could be tested. Hypotheses could only be accepted if (1) the overall model fit was acceptable, (2) the critical ratio was > 1.96 and significant, and (3) the estimate produced had a positive value, given that all the hypotheses involved positive relationships. If these conditions were met for a particular parameter then it could be concluded that the null hypothesis that the path coefficient is equal to 0 should be rejected (thus providing support for the hypothesis).

Table 10 provides the unstandardised coefficient, standard error and critical ratio for each of the estimated paths needed to test the hypotheses. The estimates produced in AMOS provided support for all hypotheses, except for hypothesis 9 due to the mediating effect of the *Student-university identification* variable.

8.14 Testing for moderating effects

The literature reveals that the decision making of students can be influenced by their sex, nationality, socio-economic background etc. (e.g., Hemsley-Brown and Foskett 2001; Vrontis et al. 2007; Chen 2008; Wilkins and Huisman 2011a) so multi-group analysis was undertaken using AMOS to discover whether any of the following groupings acted as moderators:

- (1) Gender
- (2) Nationality
- (3) Year of study (i.e., respondent currently in Year 12 or Year 13)
- (4) Already made higher education application(s)

- (5) Already done research on higher education (i.e., have some knowledge about different institutions)

Table 10. Summary of results for hypothesis testing.

	Hypothesis	<i>B</i>	<i>SE B</i>	C.R.	Hypothesis supported?
H4	Prestige → Image attractiveness	1.408	.141	9.985***	Yes
H5	Relevant others → Image attractiveness	2.280	.224	10.186***	Yes
H6	Similarity → Student-university identification	.859	.034	25.392***	Yes
H7	Self-esteem → Student-university identification	.958	.222	26.528***	Yes
H8	Image attractiveness → Student-university identification	2.194	.218	10.073***	Yes
H9	Image attractiveness → Supportive intentions	-.054	.253	-.572 ^a	No ^b
H10	Student-university identification → Supportive intentions	.987	.035	28.451***	Yes

*** = $p < .001$

^a $p = .568$

^bAs the inclusion of the *Student-university identification* variable in the model causes full mediation (i.e., the Image attractiveness → Supportive intentions path becomes non-significant), this hypothesis is only supported for the simple structural model that does not include the *Student-university identification* variable ($B = 2.140$; $SE B = .221$; C.R. = 9.690, $p < .001$).

Whereas a mediating effect involves a third variable/construct intervening between two other constructs, a moderating effect changes the relationship between two variables/constructs based on the level/amount of the moderator (Hair et al. 2010, p. 690).

Moderation can be tested with multigroup SEM. Multigroup SEM involves first estimating freely all hypothesised parameters; then, a second model is estimated in which the relationships that are thought to be moderated are constrained to be equal in all groups (referred to as 'tau-equivalence'); then, the fit of the two models is compared. If the fit of the second model is significantly worse, then moderation is evident, but if second model fits as well as the first, moderation is not supported.

Figure 38 depicts the tau-equivalent model for males when testing for gender as a moderator, and Figure 39 shows the model fit output from AMOS. The results relating to the model with free parameters are highlighted in light grey shading, and the results relating to

the tau-equivalent model are highlighted in dark grey shading. The results from the model comparison ($\chi^2_{(4)} = 6.586, p = .361$) suggest that imposing the restriction of equal factor loadings across males and females did not result in a statistically significant worsening of overall model fit. Therefore, there is no support for gender as a moderating variable.

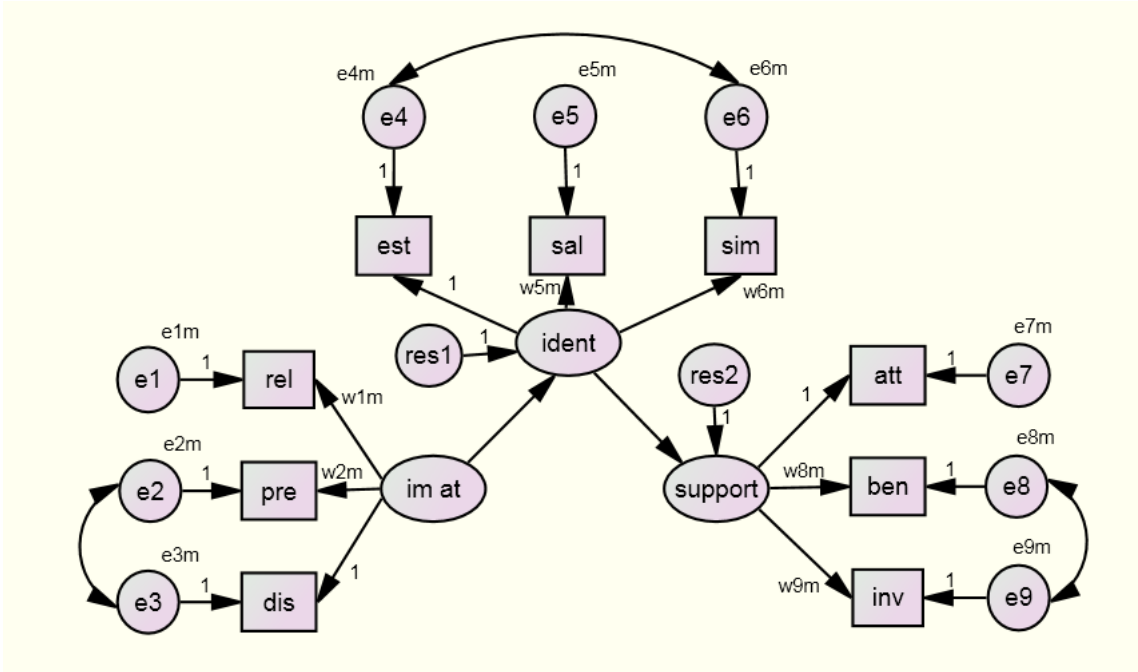


Figure 38. Tau-equivalent model for males when testing for gender as moderator.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Gender	46	130.386	44	.000	2.963
Gender 2 Tau-equivalent	40	136.972	50	.000	2.739
Saturated model	90	.000	0		
Independence model	18	2899.128	72	.000	40.266

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Gender	.955	.926	.970	.950	.969
Gender 2 Tau-equivalent	.953	.932	.969	.956	.969
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Gender	.072	.058	.086	.006
Gender 2 Tau-equivalent	.067	.054	.081	.017
Independence model	.321	.311	.331	.000

Nested Model Comparisons

Assuming model Gender to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Gender 2 Tau-equivalent	6	6.586	.361	.002	.002	-.006	-.006

Figure 39. Model fit output from AMOS: gender as moderator.

Table 11 summarises the fit statistic results associated with the models used to test for moderator variables. Comparison of the differences between models with the chi-square difference test ($\Delta\chi^2$) indicates if the model fit significantly decreased (i.e., an increase in χ^2) when the estimates were constrained to be equal. A statistically significant difference between models indicates that the path estimates were different (i.e., the unconstrained model had better fit) and that moderation does exist. If the models are not significantly different, then there is no support for moderation because the path estimates were not different between groups.

Table 11. Summary of fit results for unconstrained and tau-equivalent (constrained) models.

Possible moderator	χ^2	df	CFI	RMSEA	Nested model comparison	Moderation supported
Gender						
Unconstrained model	130.386	44	.969	.072	$\chi^2_{(6)} = 6.586, p = .361$	No
Tau-equivalent model	136.972	50	.969	.067		
Nationality						
Unconstrained model	239.441	132	.962	.046	$\chi^2_{(30)} = 49.777, p < .05$	Yes
Tau-equivalent model	289.217	162	.955	.046		
Year of study						
Unconstrained model	93.789	44	.983	.054	$\chi^2_{(6)} = 16.021, p < .05$	Yes
Tau-equivalent model	109.811	50	.979	.056		
Already applied						
Unconstrained model	119.206	44	.973	.067	$\chi^2_{(6)} = 1.797, p = .937$	No
Tau-equivalent model	121.003	50	.975	.061		
Done research						
Unconstrained model	104.727	44	.976	.060	$\chi^2_{(6)} = 13.848, p < .05$	Yes
Tau-equivalent model	118.575	50	.972	.060		

Table 12 shows the estimates for *Student-university identification* → *Student's supportive intentions* among the groups that act as moderators. Among the different nationality groups, the relationship between *Student-university identification* and *Student's supportive intentions* was strongest among students in the 'Others' category. These students came from countries that did not fit into any of the other categories, examples being Australia, Kazakhstan and the Philippines. After the students in the 'Others' category, the relationship between *Student-university identification* and *Student's supportive intentions* was strongest among students from North America and South Asia and weakest for those from Europe. The majority of European students were actually from countries in Eastern Europe, such as Russia and the Baltic States. It is beyond the scope of this research to speculate why organisational identification is more or less important to students of different nationality, but the fact that levels of organisational identification impact differently on a student's supportive intentions among different nationality groups is clearly something that institutional marketers should research further.

Table 12. Estimates for Student-university identification → Student's supportive intentions among the groups that act as moderators.

	<i>B</i>	<i>SE B</i>	<i>C.R.</i>
Nationality			
<i>Other</i>	1.575	.384	4.105***
<i>North American</i>	1.130	.129	8.791***
<i>South Asian</i>	.994	.055	18.120***
<i>Middle Eastern</i>	.984	.082	11.991***
<i>African</i>	.924	.076	12.239***
<i>European</i>	.878	.067	13.104***
Year of study			
<i>Year 13</i>	1.002	.057	17.634***
<i>Year 12</i>	.971	.043	22.673***
Done research			
<i>Familiar with institution</i>	1.064	.056	19.048***
<i>Not familiar with institution</i>	.870	.048	17.966***

*** = $p < .001$

The relationship between *Student-university identification* and *Student's supportive intentions* was stronger for students in their final year of secondary education than for those in their penultimate year. Final year students are more likely to have engaged in activities that resulted in identification with HEIs – for example, by attending open days – and are more likely to have either already applied to institutions or at least started forming a shortlist of possible institutions to which they might apply. The students who had already done some research on

higher education options were more familiar with specific institutions in the UAE and this strengthened the relationship between *Student-university identification* and *Student's supportive intentions*.

8.15 Testing reliability of structural model

To assess the reliability (replicability) of the final structural model, it was applied to a second sample. The second sample drew upon respondents from the main sample. The first five respondents were extracted from the main sample and then every other five respondents, i.e., the new sample consisted of respondent numbers 1-5, 11-15, 21-25, 31-35 etc. ($n = 192$). Table 13 allows comparison of the fit statistics for the two samples.

Table 13. Model fit results for the two samples.

	n	χ^2	df	p	χ^2 / df	NFI	CFI	RMSEA
<i>Sample 1</i>	384	84.373	22	.000	3.885	.970	.978	.086
<i>Sample 2</i>	192	53.410	22	.000	2.428	.961	.976	.086

The normed chi-square test yielded an improved fit statistic for Sample 2, but this is probably the result of this sample having far fewer observations/respondents than Sample 1. The incremental fit statistics – NFI and CFI – suggested that the fit with the second sample was only very marginally worse than with the first sample. Overall, it is concluded that the model's fit with the two samples were very similar, offering support for the model's reliability and replicability.

Chapter 9 Conclusion

9.1 Summary of findings

This section summarises and discusses the research findings in the context of the research questions and hypotheses. The overarching research question was, “To what extent does perceived image attractiveness and organisational identification determine a student’s supportive intentions for a particular international branch campus?” Before addressing this question, the sub-questions specified in Section 1.2.1 and hypotheses specified in Sections 5.2–5.5 shall be revisited in the light of the study’s findings.

(i) What are the sources of information and influence on university image formation among prospective higher education students in the UAE?

Exploratory factor analysis (Table 2) was used to identify six significant sources of information and influence on students’ image formation of UAE branch campuses: *Interpersonal* (INT), *University controlled communications* (UCC), *Local campus features* (LCF), *Local branch features* (LBF), *Communications not controlled by university* (CNC) and *Home campus heritage and prestige* (HHP). The factor that had the greatest influence on the images of international branch campuses formed by potential students was *Interpersonal*, i.e., recommendations and feedback resulting from personal relationships, which explained 36.4% of total variance. *University controlled communications* (university prospectuses/viewbooks and literature; university web sites; and university open days) were the second greatest influence, explaining 8.2% of variance.

It is also noteworthy that the image formed of a branch campus in the UAE is affected not only by a range of factors related to the local branch (e.g., features of the campus, level of tuition fees and entry requirements), which explained 14.89% of total variance, but also by aspects of the home campus image and performance (e.g., whether the institution is old and has a historic campus, and whether it has educated Nobel Prize winners), which explained 6.31% of total variance. The results emphasise the need for institutions to carefully manage both their home and branch campus images, as the latter is to some extent dependent upon the former, and to consider, manage and improve communications and interactions with all stakeholders – particularly current students, teachers, parents and the media – as each of these stakeholders have been found to considerably influence students’ perceptions of an institution.

It was further found that for the *Interpersonal*, *University controlled communications* and *Local branch features* variables there was a statistically significant difference between males and females. This indicates the need for a segmented approach to marketing and corporate identity management. Institutions should not however also forget cultural factors, as in the pilot study students explained their reliance on interpersonal sources, particularly on parents and relatives, as a social norm in their cultures. The distinctive and different family expectations and upbringing of boys and girls among certain ethnic and religious groups commonly found in the UAE (mainly Middle Eastern and South Asian) might account for the differences found between males and females. It is likely that all around the world family dynamics, religion and social norms will to some extent have an impact on student attitudes and perceptions in the student's process of university image formation.

To test the hypotheses concerning a student's ability to form distinct images of university branch campuses that he/she perceives as accurate, correlation analysis was undertaken. The results of the correlation analyses indicated significant positive relationships between a student's ability to form distinct images of university branch campuses and his/her reliance on university controlled communications and interpersonal relationships, and the amount of research he/she has done. Thus hypotheses 1-3 were all supported (**H1**: The more a student relies on university controlled communications as a source of information, the greater his/her ability to form distinct images of university branch campuses that he/she perceives as accurate; **H2**: The more a student relies on interpersonal relationships as a source of information, the greater his/her ability to form distinct images of university branch campuses that he/she perceives as accurate; and **H3**: The more information that a student obtains, the greater his/her ability to form distinct images of university branch campuses that he/she perceives as accurate).

It should be emphasised that 33.3% of respondents did not feel able to form distinct images of UAE branch campuses that they believed were accurate. Although many of these respondents may have paid little attention to UAE branch campuses because they intended to undertake their higher education outside the UAE (74.3% of respondents who had already submitted applications to institutions intended to leave the UAE), the findings do suggest that the corporate and marketing communications of UAE branch campuses has not had a great impact. Nevertheless, a few students did admit in the pilot study that they had been influenced by the cinema and radio advertising of certain institutions.

(ii) What are the criteria used by prospective higher education students in the UAE to evaluate the images they hold of international branch campuses?

The pilot study revealed that UAE high school students generally had a poor awareness and knowledge of different institutions located in the UAE. Respondents mentioned that the lack of rankings and publicly available independent information about local institutions made it more difficult for them to assess UAE institutions compared to institutions in countries such as the US or UK. Furthermore, in some high schools it is the norm for parents and teachers to assume that children will pursue their higher education outside the UAE and this undoubtedly impacts upon the images that students hold of local institutions. An examination of the websites of international schools in the UAE indicated that the majority emphasise that their students gain places at leading universities in North America or Europe. It is clear that schools rely heavily on such data in their marketing and to support their claims of providing a high quality education.

In judging international branch campuses in the UAE, word of mouth from relatives or friends who had first-hand experience of study in the UAE was highly influential in shaping the images of institutions held by students. It was found that when respondents knew someone who had a poor experience at a particular institution then the respondent nearly always held a poor image of that institution. Virtually all of the respondents in the pilot study believed that American and British universities were of the highest quality and most respected worldwide, but this sentiment was expressed with regard only to home campuses, not to international branch campuses. Several respondents named a particular branch campus (rather than one of the federal or privately owned institutions) as being the worst or lowest quality university in the UAE. However, there was a lack of consensus among respondents as to which were the best and worst universities in the UAE and three institutions were named as both best and worst by different students. This finding emphasises the need for branch campuses to develop and maintain distinct and positive identities in their local markets, which is only likely to occur if effective marketing and branding activities are implemented.

With the exception of the χ^2 test, all of the fit indices of a model with three underlying variables that represent student evaluation of university image attractiveness (Figure 12) yielded favourable results, thus confirming *Relevant others*, *Institutional prestige* and (positive) *Institutional distinctiveness* as the criteria used by prospective higher education students in the UAE to evaluate the images they hold of international branch campuses. Exploratory factor analysis revealed that the opinions of relevant others, which included the media, had the strongest influence on student evaluations of institutional images, as this factor explained 51.1% of total variance. Nevertheless, 39.3% of respondents agreed that factors related to

prestige influenced their perceptions of an institution and 29.7% agreed that they were influenced by the distinctiveness of an institution.

The results of the correlation analyses indicated significant positive relationships between a student's evaluation of the attractiveness of a university's image and (i) his/her perception of the university's prestige and (ii) positive views held by relevant others. The findings therefore support hypotheses 4 and 5 (**H4**: The more prestigious a university is perceived by a student, the more attractive the university's image will be to him/her; **H5**: The more that relevant others are perceived by a student to hold positive views about a university, the more attractive the university's image will be to the student).

(iii) What are the components of student-university identification among high school students in the UAE?

It was hypothesised that a student would identify more strongly with an institution if he/she perceived him/herself to be similar to the institution (**H6**), if the institution was perceived by the student to satisfy self-esteem needs (**H7**) and if the student perceived the institution's overall image as attractive (**H8**). Factor analysis revealed *Similarity*, *Self-esteem* and *Saliency* as the components of student-university identification, thus offering support for hypotheses 6 and 7. Testing the final structural model (Figure 34) indicated a positive significant relationship between perceived *Image attractiveness* and *Student-university identification* (Figure 37), thus offering support for hypothesis 8.

It is perhaps to be expected that individuals are more likely to identify with institutions that they perceive as attractive; it is also unlikely that students would have a feeling of belongingness or sense of oneness with institutions they found unattractive as organisational identification only occurs when individuals believe that an organisation's distinctive and salient characteristics are self-referential, self-defining and enriching to their own social identity (Ashforth and Mael 1989).

(iv) To what extent do students' evaluations of university image attractiveness influence their supportive intentions?

A simple regression model (described in Section 7.5.3) found that perceived image attractiveness determined on the basis of influence from relevant others explained 55.4% of the variability in the attachment/membership intentions of prospective students. In developing a structural model to test the relationship between perceived image attractiveness and students' supportive intentions, organisational prestige and distinctiveness were added as

predictor variables given that the fit statistics for the *Student evaluation of image attractiveness* model (Figure 13) indicated that the underlying variables of the construct are (1) influences of relevant others, (2) organisational prestige and (3) organisational distinctiveness.

When a simple structural model was created to test the hypothesis (**H9**) that a student's perception of university image attractiveness is positively related to their intention to support that institution (Figure 28), all of the target fit index cut-values were achieved. It is perfectly logical that students will choose to support those institutions that they perceive as possessing attractive images. It is clear, therefore, that institutions will benefit from increased support if individuals are positively influenced by relevant others, if individuals perceive the institution as prestigious and if individuals perceive the institution as being positively distinctive.

(v) To what extent does student-university identification influence students' supportive intentions?

Regression analysis was used to confirm that *Self-esteem*, *Similarity* and *Saliency* were predictors of a student's attachment/membership intentions. However, *Saliency* was only a significant variable when used as the sole predictor in a simple regression model. The model that used *Self-esteem* and *Similarity* as independent variables was able to predict 74.1% of the variability in students' attachment/membership intentions. The regression analysis therefore offered support for the hypothesis that the more strongly a student identifies with a particular university, the greater the student's intentions to support that institution (**H10**).

Further confirmation was sought to support hypothesis 10 – specifically with regard to more general supportive intentions rather than only attachment/membership intentions – by testing the structural model that was composed of the three latent constructs of *Image attractiveness*, *Student-university identification* and *Student's supportive intentions*. When *Student-university identification* was added to the structural model (Figure 31), complete mediation occurred, as the path between *Student evaluation of image attractiveness* and *Student's supportive intentions* became non-significant while the path between *Student-university identification* and *Student's supportive intentions* was significant. This meant that *Student-university identification* was a mediator.

When the path between *Student evaluation of image attractiveness* and *Student's supportive intentions* was deleted (Figure 34), the critical ratio of the path between *Student-university identification* and *Student's supportive intentions* increased considerably. Thus, the structural model provided further support for hypothesis 10 and confirmed *Self-esteem*,

Similarity and *Saliency* as the underlying variables of the *Student-university identification* construct, which could be used as a predictor of a student's supportive intentions.

Multigroup SEM found that (1) student's nationality, (2) the student's year of study and (3) whether or not the student had already done some research on HEIs each acted as a moderator in the model. The results (Table 12) indicated the strength of the relationship between *Student-university identification* and a *Student's supportive intentions* for each of the groups acting as a moderator. Marketing practitioners in HEIs can use the results to focus their efforts on those groups for whom student-university identification is likely to lead to more beneficial behaviours towards the institution. In summary, the findings suggest that in order to maximise students' supportive intentions, an institution should implement strategies that create and strengthen student-university identification.

(vi) The overarching research question

In addressing the central research question of this research about the extent to which perceived image attractiveness and organisational identification determine a student's supportive intentions for a particular international branch campus, it is concluded that both perceived image attractiveness and organisational identification can have a positive impact on a student's supportive intentions. Although the relationship between perceived image attractiveness and students' supportive intentions was found to be strong, the relationship became non-significant once student-university identification was added to the model.

For HEIs, choice of institution for undergraduate education is probably the most important of the possible supportive behaviours of potential students. Although the pilot study found that students' choices of HEI were influenced by factors such as their personal motivations and career aspirations, their socio-economic background (i.e., their ability to pay tuition fees and other costs associated with particular choices) and convenience (e.g., avoiding regular air travel), other factors – which could determine or shape the images formed of different institutions – were also important, e.g., the amount of time the students spent researching higher education opportunities, the views and opinions of parents, relatives, teachers and (to a lesser extent) peers, as well as the HE experiences of others known to him/her. In conclusion, many different factors can influence university image formation/evaluation and student-university identification, which in turn can influence a student's supportive intentions towards a particular institution.

9.2 Reflection on research methodology

In addition to answering the research questions, one of the key aims of this research was to test Bhattacharya and Sen's (2003) proposition that *potential* customers can identify with organisations, which in turn can lead to supportive behaviours for an organisation, e.g., loyalty to the organisation; 'promoting' the organisation (e.g., through positive word of mouth); and 'recruiting' other customers. Thus, a quantitative, deductive approach to the research that involved the testing of hypotheses proved to be a suitable research approach. The scientific approach adopted generated a set of data that provided support for Bhattacharya and Sen's (2003) proposition. However, using the UAE as a case study is not alone sufficient to confirm generalisation of the theory.

In reviewing the research process and outcomes the researcher feels justified in adopting an objectivist ontological position and a positivist epistemology, which are generally accepted as 'going together'. The research involved a structured methodology that could be readily replicated and the researcher believes that the research was undertaken in a detached, value-free way. Although the structural model was tested on the basis of quantitative data achieved from the survey questionnaire, the study also adopted a qualitative approach for the pilot study.

The pilot study yielded rich and detailed data that improved the researcher's understanding of the decision-making processes of high school students in the UAE, as well as providing some suggestions for minor modification and improvement of the draft survey questionnaire. Although an attempt was made to gain a student sample for the pilot study that was representative of the UAE expatriate high school population, this was not entirely possible. Due to time and cost constraints, the researcher was only available to conduct student interviews over a five-day period in January 2012.

Although Indians represent the largest expatriate community in the UAE, it was unfortunately not possible to gain any Indian curriculum schools in the pilot sample (where students take the Central Board of Secondary Education (CBSE) examinations) as these examinations are sat in the Spring – much earlier than the examinations of awarding bodies in other countries – and students taking the CBSE examinations were already taking revision classes or were on private study leave. Nevertheless, 17.4% of the pilot sample consisted of Indian nationals, who were taking either the International Baccalaureate Diploma or the English A Level qualification. It is recognised however that selection bias is probable, as these students were more likely to be interested in attending American or British universities, whether in the US or UK, or at US/UK-based branch campuses in the UAE. In contrast, Indian

students taking the CBSE qualification might have been more likely to return to India for their higher education or to attend Indian branch campuses in the UAE. Due to logistical reasons, it was not possible to include an American curriculum school in the pilot sample. However, the full survey sample did include both Indian and American curriculum schools.

The pilot study involved 23 students at four international schools in Dubai. The researcher's intention had been to conduct student interviews at five different schools over five whole days. Upon leaving the UK the researcher had five schools that had agreed in writing to definitely participate in the pilot study, but after the researcher had arrived in the UAE (and only three days before his scheduled visit to the school) one large, Lebanese/International school pulled out of the pilot study because it had not been able to find enough respondents who were available/willing to be interviewed on the agreed date. Although this was disappointing, the researcher feels that the overall quality and validity of the pilot study findings was not compromised.

The procedure of seeing students in pairs seemed to work well and it optimised the use of the researcher's time. The pilot study respondents were all satisfied with the items (they understood the questions and felt able/willing to provide answers) and with the design and presentation of the draft survey questionnaire. The design of the questionnaire replicated a questionnaire the researcher had already developed with colleagues for a previous research project (on student attitudes to the rising tuition fees in English higher education) as this questionnaire had already been proven successful. No major issues or problems with the questionnaire were revealed and it seemed to generate the data that was expected and needed in order to test the structural model. Having 116 items over four pages was probably the biggest weakness of the questionnaire as it encouraged many respondents to miss out whole sections of questions or quit before finishing the questionnaire. Unfortunately, given the demands of SEM and the need to have a sufficient number of items for the indicators of each variable in the model, there appeared no solution to this problem (see Figure 35 for a diagram that shows each indicator and its items).

The fact that the UAE hosts more international branch campuses than any other country provided the rationale for conducting the study in the UAE. A sufficient number of high schools agreed to participate in the research, which provided a sample that was large enough for reliable regression analysis and structured equation modelling. Although 17.6% of the returned questionnaires were unusable (due to respondents missing out sections, providing too many contradictory answers or simply giving the same score to a series of questions – see Section 7.3), the remainder appeared to be conscientiously completed. This is reflected in the usable

sample of 384 having a total of only 60 missing values, i.e., around one missing value in every seven completed questionnaires. Some credit for this must be given to the teachers who administered the questionnaire, who most likely gave students clear instructions, motivated the students to complete the questionnaire with care, and provided the purposeful classroom atmosphere that enabled the students to concentrate and remain focused. The researcher ensured that teachers and survey coordinators at each school were adequately prepared, as they were each provided with a tutor briefing sheet that gave advice and instructions on how to manage the data collection process (see Appendix 4).

Telephone and email communications between the researcher and key staff at each school were used to discuss and agree the method(s) to be used to administer the questionnaire (e.g., whether the questionnaire should be completed at school or home and how much time should be given to the respondents to complete the questionnaire – 20 minutes was recommended). Also, the researcher emphasised the key possible problem areas that might be encountered and how those problems might be overcome, e.g., teachers taking a few spare pens or pencils for those students who did not have their own. In terms of nationality, gender and socio-economic background, the respondents participating in the final survey were fairly representative of the UAE expatriate high school population.

Even though the final survey yielded sufficient data to create and test the structural model (at the 95% confidence level), it was originally expected that over 600 completed questionnaires would be returned – 400 for the initial testing and 200 to be used as a hold-out sample, to confirm model validity and replicability. Questionnaires were mailed to eight schools from mid-February 2012 onwards and schools agreed to return the completed questionnaires before the end of March 2012, or at least before the start of their Easter vacations. The researcher's previous experience with normal airmail from the UK to the UAE was that mail took about seven days to arrive, or possibly ten days, but four weeks after the questionnaires had been sent from the UK none of the schools had received them.

In fact, the University of Bath's mail provider took 5-6 weeks to deliver the questionnaires. Although all of the eight schools eventually received the questionnaires, three of the schools were no longer able to participate in the survey, either because students had already started their study leave or because the start of the Easter vacation was now too close. Two of the five participating schools helped by not waiting for the mailed questionnaires, but instead printed the questionnaires themselves from a version emailed to them. The problem of late-arriving questionnaires resulted in the final sample being considerably smaller than planned and there were insufficient questionnaires to create a hold-out sample. As the 'next-best' option, a

random sub-sample was taken from the main sample to test model validity and replicability. Although the two samples had similar fit with the model, offering support for the model's validity and replicability, it is a weakness of the study that a hold-out sample could not be created from data not also used in the main sample.

Using the SPSS software program, factor analysis was used to determine or confirm the underlying components of each variable used in the data analysis. The SPSS program proved easy to use and it produced clear and easy-to-understand results. In SPSS, principal components analysis is the default method of extraction. Principal components analysis was used in this research even though it is not a true method of factor analysis (Costello and Osborne 2005). Components are calculated using all of the variance of the manifest variables and all of the variance appears in the solution, but the data reduction is computed without regard to any underlying structure caused by latent variables. If the factors are uncorrelated and communalities are moderate, principal components analysis can produce inflated values of variance accounted for by the components. Examination of the factor analysis results in this research indicated that inflated values of variance were unlikely.

When deciding the number of factors to be retained for rotation the majority of researchers now use the Kaiser criterion, which stipulates that all factors should have eigenvalues greater than one (Field 2009). However, Costello and Osborne (2005) argue that the Kaiser criterion does not always yield the best results for a particular data set. Jolliffe (1986) suggested retaining in a model variables with eigenvalues over .70, but more recently most researchers believe that scores as low as .70 are insufficient (Field 2009). Field (2009, p. 788) believes that the Kaiser criterion appears to be accurate when the number of variables in the analysis is less than 30 and the communalities after extraction are all greater than 0.7, or, if the sample size exceeds 250, greater than, or equal to, 0.6.

In the *Sources of influence on image formation* model (Table 2), CNC (communications not controlled by the university) and HHP (home campus heritage and campus) had eigenvalues below one, but above 0.7 (in fact, the scores were 0.98 and 0.89). In the *Students' evaluation of university image attractiveness* model (Table 4), *Distinctiveness* had an eigenvalue of 0.93. Some researchers would argue that these three variables have eigenvalues that are too low, but whilst accepting that these scores are lower than ideal the researcher has retained them as they each account for at least 5% of explained variance.

SEM was proven to be an effective technique to use in order to test the hypotheses and answer the research questions. In particular, it was found that the main benefits of using SEM

were its ability to work with latent variables and to test multiple hypotheses simultaneously, thus saving the researcher considerable time and effort. As SEM is a technique used for deductive research, the researcher was forced to take care in construct operationalization and specifying the hypothesised pattern of relationships between variables. This required careful consideration of the literature on organisational image and consumer-organisation identification, which undoubtedly contributed to the successful development of a high quality structural model.

AMOS was the software program used for the confirmatory factor analysis and for obtaining estimates relating to the final structural model. Most researchers choose to use AMOS for its graphical interface, which enables models to be created by drawing path diagrams. The researcher found the model construction and testing processes relatively straight-forward. However, on several occasions progress in the data analysis was hindered by bugs in the program that resulted in error messages such as “cannot calculate estimates because the model contains one unnamed variable” (when this was not in fact the case) or “data file not recognised” when the same data file had just been used in obtaining estimates for a previous model.

When error messages appeared or when the program failed to provide estimates, it was generally a case of trial and error to make a change that stopped the error message reappearing or that enabled estimates to be returned. Consulting books such as Byrne (2010) and online searches of researchers experiencing similar problems (of which there were many) did not reveal consistent advice on how to overcome the problems. For example, in the measurement model (Figure 24) the latent variables were labelled *image attract*, *identification* and *support* and estimates were produced without any problem. However, in subsequent analysis, estimates could not be calculated until the variables were renamed, hence why *image attract* and *identification* appear as *im at* and *ident* in Figure 34. Having spoken to several users of AMOS since the data analysis was conducted, it was discovered that error messages are a common occurrence when working with the program and in many cases the messages do not seem to have a justified cause. So, in conclusion, although AMOS is probably the easiest SEM package to use it might not be the most reliable. If constructing relatively simple models, as in this research, it might not be a huge problem for a researcher to redraw or respecify a part of a model when error messages appear, but if working with a large, complex model, the researcher might prefer to work with a program that is more reliable.

All of the tests for reliability and validity were passed at each stage of the data analysis, so the researcher is confident that the results and conclusions formed are sound and justifiable.

9.3 Contributions of study

As well as highlighting the contributions of the study, this section will include a reflection on the theory used. In seeking to understand the decision-making processes of international students with regard to studying abroad at a main campus or staying at home and studying at an international branch campus, this research referred to literature on organisational/corporate image and identification. This literature proved very helpful in guiding the development of the study's theoretical framework, the survey questionnaire and the structural model.

Kazoleas et al. (2001) argue that organisational image is a highly complex construct in which each opinion, attribute and piece of knowledge gained about an institution can be used by a potential student to construct a different image of the university. Although, through corporate and marketing communications and effective customer relationship management, universities can play a significant role in the corporate images constructed by stakeholders (Balmer and Greyser 2002; Karaosmanoglu and Melewar 2006), unplanned and uncontrollable communications are also highly influential in corporate image formation (Williams and Moffitt 1997; Bhattacharya and Sen 2003). This research has shed light on how students seek and process information on different HEIs and the influences on their decisions on whether or not to consider, or even to apply, to an international branch campus.

The results confirmed that over two-thirds of high school students in the UAE were able to form at least one image of a local branch campus that he or she believed was accurate. Correlation analysis revealed that a student's ability to form a distinct image of a university branch campus was positively associated with the student's use of university controlled communications, the amount of research done by the student and interpersonal relationships. The key finding here is that potential students, who may not have previously had any direct interaction with a particular university, *were* still able to construct organisational images of that university.

Supporting the findings of researchers such as Kazoleas et al. 2001; Mazzarol and Soutar 2002; Shankar et al. 2005; Wilkins and Huisman 2011a; and Sojkin et al. 2012, it was found that interpersonal relations had the greatest influence on the images of international branch campuses formed by potential students. Also, the opinions of relevant others were found to have the strongest influence on student evaluations of institutional images. Another important contribution of the research is the finding that the image of a branch campus in the UAE is affected not only by a range of factors related to the local branch, but also by aspects of the home campus image and performance.

Surprisingly, no researcher has previously tested empirically – using a questionnaire specifically designed for the purpose – Bhattacharya and Sen's (2003) proposition that *potential* customers can identify with organisations, which in turn can lead to supportive behaviours for an organisation. The development and testing of a structural model that supports Bhattacharya and Sen's proposition is one of the major contributions of this research. The finding makes clear to HEIs the importance of developing relationships with stakeholders considerably before the time when the stakeholders will actually consider whether or not to support the institution. Thus, institutions should develop and implement a strategy of customer relationship management that starts well before the customer actually becomes a customer.

A simple structural model (Figure 28) was used to confirm that a student's perception of university image attractiveness is positively related to their intention to support that institution. However, a subsequent model that included the *Student-university identification* variable found that this variable caused complete mediation, with the path between *Student evaluation of image attractiveness* and *Student's supportive intentions* turning non-significant. This is another major contribution of the study as it emphasises the power of organisational identification over consumers' decision-making.

In sum, this research has made both a theoretical and empirical contribution to knowledge. The implications of the findings go beyond higher education management and marketing as they are also applicable to any organisation that operates, or plans to operate, in foreign countries.

9.4 Implications and recommendations for institutions

The implications of the research findings for HEIs are that they must find ways of developing and communicating their prestige to external stakeholders, that they must satisfy their existing students to benefit from positive word of mouth and that they should plan and execute an effective public relations strategy that manages communications and information available in the public domain. It was clear from the pilot study that institutional reputation, and in particular positions in rankings, were very influential in students' evaluations of institutional prestige and quality.

Universities can benefit from achieving high positions in rankings by obtaining more applications and by attracting the highest quality students (Wilkins and Huisman 2012b). Although some universities will be able to implement strategies to maintain or improve their

rankings, not every institution will be able to achieve high positions in rankings. Some institutions will have to find other ways to communicate their prestige to stakeholders, e.g., achieving strong results in student satisfaction surveys, achieving accreditation with international accreditation bodies, gaining membership of prestigious mission groups and by developing strong reputations among employers for producing high quality graduates, which will result in high employment rates for the institution's graduates.

This study is one of the first to examine in a higher education context the criteria used by prospective customers to evaluate the images of overseas subsidiaries of multinational organisations. Given that one third of the respondents in our study said they were influenced by information and opinions gained through personal relationships and the media, and that the influence of 'relevant others' explained 55.4% of the variability in the attachment/membership intentions of prospective students, it can be concluded that it is of paramount importance for international branch campuses to devise and implement strategies to ensure positive perceptions and opinions among all stakeholders (such as parents, employers and the media) as any of these stakeholders might heavily influence the decision-making and choices of prospective students.

Obtaining and analysing feedback from students on their programme and overall student experiences, in addition to market research that not only assesses the branch campuses' potential new services but which also monitors the institutional images formed by potential students, are vital components of institutional marketing strategies. An interesting approach is chosen by the University of Wollongong in Dubai, which rewards positive word of mouth by offering its students discounts on their tuition fees if they recommend the institution to others who then enrol on a programme at the campus.

Every HEI should pay attention to ensuring positive perceptions among its key stakeholders, but the situation for international branch campuses is arguably more complex and vulnerable than for a 'traditional' HEI. Three elements of this complexity and vulnerability stand out. First, the international branch campus is a relatively recent phenomenon and as such these institutions may suffer from the liability of newness and from not having been able to build up favourable reputations, given limited customer experiences over time (Wilkins and Huisman 2012a). As such – admitting that reputations can easily be damaged – not having an established reputation (yet) may work against international branch campuses and make their activities (more) vulnerable to customer criticism and complaints.

Second, constructions of branch campus images may be blurred by students' perceptions of home campus reputations. The total product offerings of international branch campuses rarely come close to the products of home campuses in terms of breadth of curriculum, quality of academic staff, physical environment, learning resources and social facilities (Altbach 2010). It means that branch campuses have to perform the complex task of managing multiple interrelated images simultaneously (see also Shams and Huisman 2012). It was found in the pilot study that the reputation and prestige of a university in its home country contributes considerably to the formation of a positive image of the institution's international branch campus, which benefits well-known institutions such as New York University Abu Dhabi and Paris-Sorbonne University Abu Dhabi. While the reputation and prestige of the home campus can be an important lever, at the same time the downside is obvious: a branch campus not able to live up to the expectations of students (based on the reputation of the home campus) may be under considerable pressure. In any multinational organisation, the identity of each overseas unit should usually be the same or similar to the identity of the parent unit. If international branch campuses have identities that differ from home campuses then brands can become devalued and customers can become confused about what the organisation stands for – its qualities and distinguishing features.

Third, students' heavy reliance on interpersonal sources means that branch campuses cannot yet utilise and benefit fully from all elements of the marketing mix. In many countries with developed higher education systems, government agencies publish reports of institutional quality audits and in many cases also league tables. Surveys such as the National Student Survey in the UK and the Australian Course Experience Questionnaire (CEQ) might be considered by prospective students when constructing institutional images. Increasingly, governments are forcing institutions to make publicly available a greater amount of data that is relevant to prospective students and other stakeholders. In the US, since July 2010, universities have been required to publish information on a government web site about the success of their graduates in finding employment, student completion rates, the average net price of a degree as well as historic data that reveals the annual increases in tuition fees. All of this data has the potential to contribute to the overall images of institutions constructed by prospective students. However, in many of the countries that host international branch campuses, government agencies put into the public domain relatively little data on university quality and performance. If they were to do so, students would be able to rely on a broader set of sources to make their choices and branch campuses themselves would be less dependent on interpersonal sources and on the accuracy of the images constructed by the 'relevant others' who influence potential students.

The implication of this finding for institutions is obvious: they must implement strategies that develop and strengthen organisational identification. Marketers must promote and emphasise those aspects of the university's identity that prospective students (and other stakeholders such as parents and employers) will perceive as distinctive, prestigious and similar to their own identities.

Universities in particular might benefit from consumer-organisation identification because they are organisations that tend to be well-known to the general public, to students, parents and employers. The international commodification and marketisation of higher education has made institutional and product differentiation more important, therefore institutions that are more distinctive might benefit more from consumer-organisational identification.

Another implication of the findings for institutions is that there exists scope for marketers to target males and females using different strategies (see p. 128). For example, when the University of Wollongong in Dubai wanted to attract prospective female Indian students to an information-giving event at its campus, it used a personal appearance by a male Bollywood film star as an added incentive for the girls to attend (Lipka 2012).

On-going market research is needed to discover how external stakeholders perceive the organisation so that suitable strategies can be developed and implemented to close the gap between institutions' desired identities and stakeholders' perceived identities. In particular, strategies that develop sustained and meaningful interactions between the student and the institution might lead to stronger student-university identification and attachment desires. Consumers' tastes and perceptions can change over time, so institutions must monitor consumer attitudes on an on-going basis. Institutions might benefit from employing specialist identity managers who assist in making strategic marketing decisions and to implement new strategies quickly in order to stay ahead of competitors. It is essential that institutions deliver what they promise so that reputations are not damaged by negative word of mouth.

Cultural issues are very important in consumer-organisation identification (Wu and Tsai 2007) and as this research was conducted at international schools in the UAE it is unlikely that the findings can be generalizable across all prospective higher education students around the world. It is likely that the expatriate students who participated in the survey have a particular set of motives and experiences that might impact upon how they identify with universities in different countries. Many of the students' parents hold prestigious jobs for which they were seconded or head-hunted from abroad and these parents can influence their children by

expecting them to gain places at the most prestigious universities worldwide (Hayden 2012), thus making institutional prestige a stronger determinant of student-university identification and attachment/membership intentions among these students. HEIs in different regions around the world need to do market research to assess the impacts of cultural issues in their particular markets.

International branch campuses benefit considerably from possessing a well-known brand that conveys quality and prestige, but the most successful institutions are likely to also have a strong customer orientation. Implementing a strong customer orientation would involve institutions developing and maintaining mutually beneficial relationships with their students, which result in the provision of a personalised student experience that satisfies each student's needs and wants. Strong and Harris (2004) observe that many studies have found significant associations between the customer orientation of an organisation and its market performance, but they claim that the marketing function alone cannot be left responsible for implementing the tactics that achieve a customer orientation. For example, effective human resource management – through training and appropriate monitoring/performance appraisal – could improve the way in which employees interact with both customers and prospective customers. Prospective students are interested in assessing the extent of an institution's customer orientation since it is likely to impact upon product and service quality, and therefore also student satisfaction.

Strong (2006) found that managers who achieved high levels of customer orientation identified with the organisation's philosophy and intent, were committed to the organisation's goals and purpose, and their personal characteristics and management style motivated employees. As a result of these findings, Strong (2006) argues that organisations should aim to recruit and retain senior marketing personnel who demonstrate these characteristics and behaviours. In sum, the most successful institutions are likely to be those that implement a total quality management approach, which involves every employee from lecturer to administrator to marketing manager, who work together to deliver a high quality learning and student experience that lives up to the institution's brand and reputation.

9.5 Further research opportunities

This research used mainly expatriate students in the UAE for the pilot and full survey samples. Expatriate students represent a sub-set within the international student market, but they represent a segment not often considered by HEIs or researched by scholars. Expatriate children might possess a unique set of motives, characteristics and experiences that impact

upon their higher education choices differently to other groups of international students and this could be an area for further research. HEIs might even recruit more expatriate students and better satisfy their needs if these students were treated as a distinct market segment that warranted a unique marketing strategy and mix.

This research examined the role of university image attractiveness on students' attachment to universities but further research could consider a wider range of influences to enable comparisons of the power of different influences on students' decision-making. The pilot study revealed that students were particularly attracted to American, British and Australian branch campuses. Country of origin can have a major impact on organisational legitimacy and how an organisation is perceived abroad. There is scope for more research on country of origin in transnational higher education. It was clear from the pilot study that branch campuses in the UAE are still suffering from 'the liability of newness', as they have not been established long enough to develop consistent reputations. Further research could investigate the strategies implemented by international branch campuses to gain legitimacy and to develop their reputations.

As well as country of origin, students were also influenced by specific characteristics and qualities of the university's home campus. Researchers could consider the extent to which home campus image and reputation impact upon how overseas branches are perceived and how institutions manage their home and branch identities simultaneously in a way that benefits both sets of campuses.

In conclusion, there exists considerable scope for more research on international branch campuses and transnational higher education in general that can further develop organisational image and identification theory as well as improving practice in higher education management and marketing.

References

- Aaker, D.A., 1991. *Managing brand equity: capitalizing on the value of a brand name*. New York: Free Press.
- Aaker, D.A., 1996. *Building strong brands*. New York: Free Press.
- Aaker, D.A. and Keller, K.L., 1993. Interpreting cross-cultural replications of brand extension research. *International Journal of Research in Marketing*, 10(1), 55-59.
- Aaker, J., 1997. Dimensions of brand personality. *Journal of Marketing Research*, 34(3), 347-356.
- Aboul-Ela, B., 2009. Overview of the quality assurance of higher education in the UAE. Available from: <http://www.international.ac.uk/resources/UK%20VCs%20Presentation%20-%20Feb2009.ppt> [Accessed 10 May 2011].
- Abubakar, B., Shankar, T. and Muuka, G.N., 2010. Tertiary education: an investigation of location selection criteria and preferences by international students – the case of two Australian universities. *Journal of Marketing for Higher Education*, 20(1), 49-68.
- ACE, 2009. U.S. branch campuses abroad. Issue brief, September 2009. American Council on Education, Center for International Initiatives. Available from: http://www.acenet.edu/Content/NavigationMenu/ProgramsServices/cii/pubs/ace/Crossborder_Survey_Results.pdf [Accessed 15 May 2010].
- Ahearne, M., Bhattacharya, C.B. and Gruen, T., 2005. Antecedents and consequences of customer-company identification: expanding the role of relationship marketing. *Journal of Applied Psychology*, 90(3), 574-585.
- Albert, S. and Whetten, D.A., 1985. Organisational identity. In: L.L. Cummings and B.M. Staw, eds., *Research in Organizational Behaviour*. Greenwich, CT: JAI Press, pp. 263-295.
- Allen, V.L., Wilder, D.A. and Atkinson, M.L., 1983. Multiple group membership and social identity. In: T.R. Sarbin and K.E. Scheibe, eds., *Studies in social identity*. New York: Praeger, pp. 92-115.
- Altbach, P.G., 2004. Globalization and the university: myths and realities in an unequal world. *Tertiary Education and Management*, 10(1), 3-25.
- Altbach, P.G., 2010. Why branch campuses may be unsustainable. *International Higher Education*, 58. Available from: http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/Number58/p2_Altbach.htm [Accessed 13 February 2010].
- Altbach, P.G., Reisberg, L. and Rumbley, L.E., 2009. *Trends in global higher education: tracking an academic revolution*. Paris: UNESCO.
- Alves, H. and Raposo, M., 2010. The influence of university image on student behaviour. *International Journal of Educational Management*, 24(1), 73-85.

- AMEinfo, 2010. *Zayed University welcomes largest ever intake of international students*. Available from: <http://www.ameinfo.com/247231.html> [Accessed 3 August 2011].
- American School of Dubai, 2011. *2011-2012 High School Profile*. Dubai, UAE: American School of Dubai.
- Arbuckle, J.L., 2010. *IBM SPSS Amos 19 user's guide*. Chicago, IL: Amos Development Corporation.
- Arpan, L.M., Raney, A.A. and Zivnuska, S., 2003. A cognitive approach to understanding university image. *Corporate Communications: An International Journal*, 8(2), 97-113.
- Ashforth, B.E. and Mael, F., 1989. Social identity theory and the organization. *Academy of Management Review*, 14(1), 20-39.
- Bagozzi, R.P., 2010. Structural equation models are modelling tools with many ambiguities: comments acknowledging the need for caution and humility in their use. *Journal of Consumer Psychology*, 20(2), 208-214.
- Bagozzi, R.P. and Yi, Y., 2012. Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8-34.
- Baker, M.J. and Balmer, J.M.T., 1997. Visual identity: trappings or substance? *European Journal of Marketing*, 31(5/6), 366-382.
- Baker, T.L., 1999. *Doing social research*, 3rd edition. New York: McGraw-Hill.
- Baldrige, J.V., 1971. *Power and Conflict in the University: Research in the Sociology of Complex Organizations*. New York: John Wiley & Sons.
- Baldwin, G. and James, R., 2000. The market in Australian higher education and the concept of student as informed consumer. *Journal of Higher Education Policy and Management*, 22(2), 139-148.
- Balmer, J.M.T., 1998. Corporate identity and the advent of corporate marketing. *Journal of Marketing Management*, 14(8), 963-996.
- Balmer, J.M.T., 2001. Corporate identity, corporate branding and corporate marketing: seeing through the fog. *European Journal of Marketing*, 35(3/4), 248-291.
- Balmer, J.M.T., 2009. Corporate marketing: apocalypse, advent and epiphany. *Management Decision*, 47(4), 544-572.
- Balmer, J.M.T. and Greyser, S.A., 2002. Managing the multiple identities of the corporation. *California Management Review*, 44(3), 72-86.
- Balmer, J.M.T. and Greyser, S.A., 2003. Corporate communications: a dimension of corporate meaning: editors' introduction. In: J.M.T. Balmer and S.A. Greyser, eds., *Revealing the corporation: perspectives on identity, image, reputation, corporate branding, and corporate-level marketing*. London: Routledge, pp. 139-152.

- Balmer, J.M.T. and Liao, M.N., 2007. Student corporate brand identification: an exploratory case study. *Corporate Communications: An International Journal*, 12(4), 356-375.
- Balmer, J.M.T., Liao, M.N. and Wang, W.Y., 2010. Corporate brand identification and corporate brand management: how top business schools do it. *Journal of General Management*, 35(4), 77-102.
- Balmer, J.M.T. and Soenen, G.B., 1999. The acid test of corporate identity management. *Journal of Marketing Management*, 15(1), 69-92.
- Bardsley, D., 2008. Dubai plans education hub of 40 universities. *The National*, 14 August. Available from: <http://www.thenational.ae/apps/pbcs.dll/article?AID=/20080813/NATIONAL/889022104> [Accessed 27 December 2008].
- Bardsley, D., 2008a. Tuition fees checked by universities' expansion. *The National*, 7 December. Available from: <http://www.thenational.ae/news/uae-news/education/tuition-fees-checked-by-universities-expansion> [Accessed 6 March 2009].
- Bardsley, D., 2010. University's half-price tuition scheme gets disappointing pass rate. *The National*, 22 January. Available from: <http://www.thenational.ae/news/uae-news/education/universitys-half-price-tuition-scheme-gets-disappointing-pass-rate> [Accessed 11 February 2010].
- Barrett, L.R., 1996. On students as customers: some warnings from America. *Higher Education Review*, 28(3), 70-71.
- Bartel, C.A., 2001. Social comparisons in boundary-spanning work: effects of community outreach on members' organizational identity and identification. *Administrative Science Quarterly*, 46(3), 379-413.
- Becker, R.F.J., 2009. *International Branch Campuses*. London: The Observatory on Borderless Higher Education.
- Beerens, H.J.J.G., 2004. *Global opportunities and institutional embeddedness: higher education consortia in Europe and Asia*. Enschede: CHEPS.
- Bélanger, C., Mount, J. and Wilson, M., 2002. Institutional image and retention. *Tertiary Education and Management*, 8(3), 217-230.
- Belch, G.E. and Belch, M.A., 1987. The application of an expectancy value operationalization of function theory to examine attitudes of boycotters and nonboycotters of a consumer product. In: M. Wallendorf and P.F. Anderson, eds., *Advances in Consumer Research Vol. 14*. Provo, UT: Association for Consumer Research, pp. 232-236.
- Bell, L., 1997. *Hidden immigrants: legacies of growing up abroad*. Notre Dame, IN: Cross Cultural Publications.
- Bell, J., 2005. *Doing your research project*, 4th edition. Buckingham: Open University Press.

- Bentler, P.M., 1990. Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246.
- Bentler, P.M., 2010. SEM with simplicity and accuracy. *Journal of Consumer Psychology*, 20(2), 215-220.
- Bentler, P.M. and Chou, C.P. (1987). Practical issues in structural equation modelling. *Sociological Methods and Research*, 16(1), 78-117.
- BERA, 2011. *Ethical guidelines for educational research*. London: British Educational Research Association.
- Bergami, M. and Bagozzi, R.P., 2000. Self-categorization, affective commitment and group self-esteem as distinct aspects of social identity in the organization. *British Journal of Social Psychology*, 39(4), 555-577.
- Bergozzi, R.P. and Yi, Y., 2012. Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8-34.
- Berry, L.L., 2000. Cultivating service brand equity. *Journal of the Academy of Marketing Science*, 28(1), 128-137.
- Berry, L.L. and Parasuraman, A., 1993. Building a new academic field: the case of services marketing. *Journal of Retailing*, 69(1), 13-60.
- Bharadwaj, S.G., Varadarajan, R.P. and Fahy, J., 1993. Sustainable competitive advantage in service industries: a conceptual model and research propositions. *Journal of Marketing*, 57(4), 83-99.
- Bhaskar, R., 1989. *Reclaiming reality: a critical introduction to contemporary philosophy*. London: Verso.
- Bhattacharya, C.B., Hayagreeva, R. and Glynn, M.A., 1995. Understanding the bond of identification: an investigation of its correlates among art museum members. *Journal of Marketing*, 59(4), 46-57.
- Bhattacharya, C.B. and Sen, S., 2003. Consumer-company identification: a framework for understanding consumers' relationships with companies. *Journal of Marketing*, 67(2), 76-88.
- Bick, G., Jacobson, M.C. and Abratt, R., 2003. The corporate identity management process revisited. *Journal of Marketing Management*, 19(7/8), 835-855.
- Binsardi, A. and Ekwulugo, F., 2003. International marketing of British education: research on the students' perception and the UK market penetration. *Marketing Intelligence & Planning*, 21(5), 318-327.
- Blackburn, J.C., 1979. *Marketing techniques used by admissions officers*. Doctoral dissertation. Indiana University, US.

- Boddy, P., 2009. Choosing a higher education study abroad destination. *Journal of Research in International Education*, 8(3), 349-373.
- Bohm, A. Davis, D., Meares, D. and Pearce, D., 2002. Global student mobility 2025: forecasts of the global demand for international higher education. *Proceedings of the 16th Australian International Education Conference*, 30 September-4 October, Hobart, Australia,.
- Bosch, J., Venter, E., Han, Y. and Boschhoff, C., 2006. The impact of brand identity on the perceived brand image of a merged higher education institution: part one. *Management Dynamics*, 15(2), 10-30.
- Bourdieu, P., 1993. *The field of cultural production*. Cambridge: Polity Press.
- Bourke, A., 2000. A model of the determinants of international trade in higher education. *Services Industries Journal*, 20(1), 110-138.
- Brandenburg, U. and de Wit, H., 2011. The end of internationalization. *International Higher Education*, No. 62, Winter 2011, 15-17.
- Briggs, S., 2006. An exploratory study of the factors influencing undergraduate student choice: the case of higher education in Scotland. *Studies in Higher Education*, 31(6), 705-722.
- Brooks, J., 1996. Awakening the sleeping dinosaur: a case study of the Liverpool Victoria Friendly Society Limited. *Journal of Brand Management*, 3(5), 306-312.
- Brookes, M., 2003. Higher education: marketing in a quasi-commercial service industry. *International Journal of Non-profit and Voluntary Sector Marketing*, 8(2), 134-142.
- Broom, G.M., Lauzen, M.M. and Tucker, K., 1991. Public relations and marketing: dividing the conceptual domain and operational turf. *Public Relations Review*, 17(3), 219-225.
- Brown, R.M. and Mazzarol, T.W., 2009. The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education*, 58(1), 81-95.
- Brown, T.J., Barry, T.E., Dacin, P.A. and Gunst, R.F., 2005. Spreading the word: investigating antecedents of consumers' positive word-of-mouth intentions and behaviors in a retailing context. *Journal of the Academy of Marketing Science*, 33(2), 123-138.
- Brown, T.J. and Dacin, P.A., 1997. The company and the product: corporate associations and consumer product responses. *Journal of Marketing*, 61(1), 68-84.
- Brown, T.J., Dacin, P.A., Pratt, M.G. and Whetten, D.A., 2006. Identity, intended image, construed image, and reputation: an interdisciplinary framework and suggested terminology. *Journal of the Academy of Marketing Science*, 34(2), 99-106.
- Brown, A. and Orthner, D., 1990. Relocation and personal well-being among early adolescents. *Journal of Early Adolescence*, 10(3), 366-381.
- Browne, M.W. and Cudeck, R., 1993. Alternative ways of assessing model fit. In: K.A. Bollen and J.S. Long, eds., *Testing structural equation models*. Newbury Park, CA: Sage, pp. 136-162.

- Bryman, A. and Bell, E., 2007. *Business research methods*, Second edition. Oxford: Oxford University Press.
- Bulotaite, N., 2003. University heritage – an institutional tool for branding and marketing. *Higher Education in Europe*, 28(4), 449-454.
- Burnett, S. and Huisman, J., 2010. Universities' responses to globalisation: the influence of organisational culture. *Journal of Studies in International Education*, 14(2), 117-142.
- Byrne, B.M., 2010. *Structural equation modelling with AMOS: basic concepts, applications and programming*, 2nd edition. New York: Routledge.
- Cameron, K.S. and Ulrich, D.O., 1986. Transformational leadership in colleges and universities. In: J.C. Smart, ed., *Higher education: handbook of theory and research*, Vol. 2. New York: Agathon Press, pp. 1-42.
- Carson, D., Gilmore, A., Perry, C. and Gronhaug, K., 2001. *Qualitative Marketing Research*. London: Sage.
- Caruana, V. and Spurling, N., 2007. *The internationalisation of UK higher education: a review of selected material*. York: The Higher Education Academy. Available from: http://www.heacademy.ac.uk/assets/York/documents/ourwork/tla/internationalisation/lit_review_internationalisation_of_uk_he_v2.pdf [Accessed 7 May 2011].
- Chapleo, C., 2004. Interpretation and implementation of reputation/brand management by UK university leaders. *International Journal of Educational Advancement*, 5(1), 7-23.
- Chapleo, C., 2011. Do UK universities communicate their brands effectively through their websites? *Journal of Marketing for Higher Education*, 21(1), 25-46.
- Chapman, R., 1986. Towards a theory of college selection: a model of college search and choice behaviour. In: R.J. Lutz, ed., *Advances in Consumer Research*, Vol. 13. Provo, Utah: Association for Consumer Research, pp. 246-250.
- Chen, L.H., 2008. Internationalization or international marketing? Two frameworks for understanding international students' choice of Canadian universities. *Journal of Marketing for Higher Education*, 18(1), 1-33.
- Childress, L.K., 2009. Internationalization plans for higher education institutions. *Journal of Studies in International Education*, 13(3), 289-309.
- Cho, J. and Treadway, D.C., 2011. Organizational identification and perceived organizational support as mediators of the procedural justice-citizenship behaviour relationship: a cross-cultural constructive replication. *European Journal of Work and Organizational Psychology*, 20(5), 631-653.
- Christensen, L.T. and Askegaard, S., 2001. Corporate identity and corporate image revisited: a semiotic perspective. *European Journal of Marketing*, 35(3/4), 292-315.

- Cialdini, R.B., Borden, R.J., Thorne, A., Walker, M.R., Freeman, S. and Sloan, L.R., 1976. Basking in reflected glory: three (football) field studies. *Journal of Personality and Social Psychology*, 34(3), 366-375.
- Cohen, L., Manion, L. and Morrison, K. (2000). *Research methods in education*, 5th edition. London: Routledge.
- Connolly, P., 2007. *Quantitative data analysis in education: a critical introduction using SPSS*. Abingdon: Routledge.
- Cornwell, T.B. and Coote, L.V., 2005. Corporate sponsorship of a cause: the role of identification in purchase intent. *Journal of Business Research*, 58(3), 268-276.
- Costello, A.B. and Osborne, J.W., 2005. Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10(7), 1-9.
- Cubillo, J.M., Sánchez, J. and Cerviño, J., 2006. International students' decision-making process. *International Journal of Educational Management*, 20(2), 101-115.
- Curtis, T., Abratt, R. and Minor, W., 2009. Corporate brand management in higher education: the case of ERAU. *Journal of Product & Brand Management*, 18(6), 404-413.
- Czarniawska, N. and Genell, K., 2002. Gone shopping? Universities on their way to the market. *Scandinavian Journal of Management*, 18(4), 455-475.
- Da Camara, N., 2006. Clear definitions in identity, image and reputation. *Henley Manager Update*, 18(2), 9-17.
- Dacin, P.A. and Brown, T.J., 2002. Corporate identity and corporate associations: a framework for future research. *Corporate Reputation Review*, 5(2/3), 254-263.
- Davies, P. and Scribbins, K., 1985. *Marketing further and higher education*. York: Longman.
- De Chernatony, L. and McDonald, M., 2003. *Creating powerful brands*, third edition. Oxford: Butterworth-Heinemann.
- De Chernatony, L. and Riley, F.D., 1998. Defining a 'brand': beyond the literature with experts' interpretations. *Journal of Marketing Management*, 14(5), 417-443.
- Department of Statistics, Singapore. (2010). *Census of population 2010*. Available from: <http://www.singstat.gov.sg/pubn/popn/c2010acr/key.pdf> [Accessed 12 May 2011].
- De Vita, G. and Case, P., 2003. Rethinking the internationalisation agenda in UK higher education. *Journal of Further and Higher Education*, 27(4), 383-398.
- Disenza, R., Ferguson, J. and Wisner, R., 1985. Marketing higher education: using situation analysis to identify prospective student needs in today's competitive environment. *NASPA Journal*, 22(4), 18-25.
- Downie, R.D., 1976. *Re-entry experiences and identity formation of third culture experienced dependent American youth: an exploratory study*. PhD thesis, Michigan State University.

- Duczmal, W., 2006. *The rise of private higher education in Poland: policies, markets and strategies*. Enschede: CHEPS/University of Twente.
- Dutton, J.M. and Carter, S.M., 1998. Mismatched image: organisational responses to conflicts between identity, shared external image, and reputation. *Proceedings of the 14th EGOS Colloquium*, 22 June 1998, Maastricht.
- Dutton, J.E. and Dukerich, J.M., 1991. Keeping an eye on the mirror: image and identity in organizational adaptation. *Academy of Management Journal*, 34(3), 517-554.
- Dutton, J.E., Dukerich, J.M. and Harquail, C.V., 1994. Organizational images and member identification. *Administrative Science Quarterly*, 39(2), 239-263.
- Easterby-Smith, M., Thorpe, R. and Lowe, A., 2002. *Management research: an introduction*, 2nd edition. London: Sage.
- Edwards, M.R. and Peccei, R., 2007. Organizational identification: development and testing of a conceptually grounded measure. *European Journal of Work and Organizational Psychology*, 16(1), 25-57.
- Einwiller, S.A., Fedorikhin, A., Johnson, A.R. and Kamins, M.A., 2006. Enough is enough! When identification no longer prevents negative corporate associations. *Journal of the Academy of Marketing Science*, 34(2), 185-194.
- Fail, H., Thompson, J. and Walker, G., 2004. Belonging, identity and third culture kids: life histories of former international school students. *Journal of Research in International Education*, 3(3), 319-338.
- Farquhar, P.H., 1989. Managing brand equity. *Marketing Research*, 1(3), 24-33.
- Farr, M., 2003. Extending participation in higher education: implications for marketing. *Journal of Targeting, Measurement and Analysis for Marketing*, 11(4), 314-325.
- Felo, M., Teichler, U. and Wächter, B., 2006. Toward improved data on student mobility in Europe: findings and concepts of the Eurodata study. *Journal of Studies in International Education*, 10(3), 194-223.
- Feng, Y., 2012. University of Nottingham Ningbo China and Xi'an Jiaotong-Liverpool University: globalization of higher education in China. *Higher Education*, published online, 27 July 2012, DOI: 10.1007/s10734-012-9558-8.
- Field, A., 2009. *Discovering statistics using SPSS*, 3rd edition. London: Sage.
- Fishbein, A.J. and Ajzen, I., 1975. *Belief, attitude, intention and behaviour: an introduction to theory and research*. Reading, MA: Addison Wesley.
- Fisk, R.P., Brown, S.W. and Bitner, M.J., 1993. Tracking the evolution of the services marketing literature. *Journal of Retailing*, 69(1), 61-103.
- Fombrun, C.J. and van Riel, C.B.M., 1997. The reputational landscape. *Corporate Reputation Review*, 1(1), 5-13.

- Foreign and Commonwealth Office, 2010. *UK in UAE: sponsoring family members in Abu Dhabi*. Available from: <http://ukinuae.fco.gov.uk/en/help-for-british-nationals/living-in-uae/sponsorship> [Accessed 16 May 2011].
- Frølich, N. and Stensaker, B., 2010. Student recruitment strategies in higher education: promoting excellence and diversity? *International Journal of Educational Management*, 24(4), 359-370.
- Fuller, W.C., Manski, C.F. and Wise, D.A., 1982. New evidence on the economic determinants of postsecondary schooling choices. *Journal of Human Resources*, 17 (4), 477-498.
- Gambetta, D., 1996, *Were they pushed or did they jump? Individual decision making mechanisms in education*, Boulder, CO: Westview Press.
- Garver, M.S. and Mentzer, J.T., 1999. Logistics research methods: employing structural equation modelling to test for construct validity. *Journal of Business Logistics*, 20(1), 33-57.
- Gatfield, T., Barker, M. and Graham, P., 1999. Measuring communication impact for university advertising materials. *Corporate Communications: An International Journal*, 4(2), 73-79.
- Gatfield, T. and Chen, C., 2006. Measuring student choice criteria using the theory of planned behaviour: the case of Taiwan, Australia, UK and USA. *Journal of Marketing for Higher Education*, 16(1), 77-95.
- George, A.M., 2000. The new public relations: integrated marketing and public relations strategies for student recruitment and institutional image building: a case study of the University of Texas at San Antonio. *Journal of Non-Profit and Public Sector Marketing*, 7(4), 17-31.
- Gerson, J., 2010. Inflation of grades is widespread, study says. *The National*, 24 January. Available from: <http://www.thenational.ae/news/uae-news/education/inflation-of-grades-is-widespread-study-says> [Accessed 11 February 2010].
- Gibbs, P., 2002. From the invisible hand to the invisible handshake: marketing higher education. *Research in Post-Compulsory Education*, 7(3), 325-338.
- Gibbs, P., 2010. The commoditization and standardization of higher education. In: F. Maringe and N. Foskett, eds., *Globalization and internationalization in higher education: theoretical, strategic and management perspectives*. London: Continuum, pp. 241-253.
- Gibbs, P. and Knapp, M., 2001. *Marketing higher and further education: an educator's guide to promoting courses, departments and institutions*. London: Kogan Page.
- Gill, J. and Johnson, P., 2002. *Research methods for managers*, 3rd edition. London: Sage.
- Gioia, D.A., Schultz, M. and Corley, K.G., 2000. Organizational identity, image, and adaptive instability. *Academy of Management Review*, 25(1), 63-81.
- Gray, B.J., Fam, K.S. and Llanes, V.A., 2003. Cross cultural values and the positioning of international education brands. *Journal of Product and Brand Management*, 12(2), 108-119.

- Greenacre, M. and Blasius, J., 1998. *Correspondence analysis in the social sciences: recent developments and applications*. London: Harcourt Base and Co.
- Gregory, C., 2002. Third culture kids: returning home. *Education Today*, 52, 11-22.
- Gribble, C. and McBurnie, G., 2007. Problems with Singapore's global schoolhouse. *International Higher Education*, No. 48, Summer 2007. Available from: <http://www.bc.edu/research/cihe/ihe/issues/2007.html> [Accessed 27 December 2008].
- Grice, T., Paulsen, N. and Jones, L., 2002. Multiple targets of organizational identification: the role of identification congruency. *Journal of Articles in Support of the Null Hypothesis*, 1(2), 22-31.
- Grimshaw, T., 2007. Critical perspectives on language in international education. In: M. Hayden, J. Levy and J. Thompson, eds., *The Sage Handbook of Research in International Education*. London: SAGE, pp. 365-378.
- Grimshaw, T. and Sears, C., 2008. 'Where am I from?' 'Where do I belong?' The negotiation and maintenance of identity by international school students. *Journal of Research in International Education*, 7(3), 259-278.
- Grunig, J.E. and Grunig, L.A., 1998. The relationship between public relations and marketing in excellent companies: evidence from the IABC study. *Journal of Marketing Communications*, 4(3), 141-162.
- Hacket, J., 2006. Hong Kong – the regional education hub: new kid on the block. *Proceedings of the 4th Asia Pacific Conference on Continuing Education and Lifelong Learning*, 6-8 December, Hong Kong.
- Hair Jr., J.F., Black, W.C., Babin, B.J. and Anderson, R.E., 2010. *Multivariate data analysis: a global perspective*, 7th edition. Upper Saddle River, NJ: Pearson.
- Harvey, J.A., 1996. Marketing schools and consumer choice. *International Journal of Educational Management*, 10(4), 26-38.
- Hatakenaka, S., 2004. *Internationalisation in higher education: a review*. Oxford: Higher Education Policy Institute.
- Hatch, M.J. and Schultz, M., 1997. Relations between organizational culture, identity and image. *European Journal of Marketing*, 31(5/6), 356-365.
- Hatch, M.J. and Schultz, M., 2003. Bringing the corporation into corporate branding. *European Journal of Marketing*, 37(7/8), 1041-1064.
- Hayden, M., 2012. Third culture kids: the global nomads of transnational spaces of learning. In: R. Brooks, A. Fuller and J. Waters, eds., *Changing spaces of education: new perspectives on the nature of learning*. Abingdon: Routledge, pp. 59-77.
- Hayes, T., 2007. Delphi study of the future of marketing of higher education. *Journal of Business Research*, 60(9), 927-931

- Helgesen, Ø. and Nettet, E., 2007. Images, satisfaction and antecedents: drivers of student loyalty? A case study of a Norwegian university college. *Corporate Reputation Review*, 10(1), pp. 38-59.
- Hemsley-Brown, J, 1999. College choice: perceptions and priorities. *Educational Management & Administration*, 27(10), 85-98.
- Hemsley-Brown, J. and Foskett, N., 2001. Model consumers? A model choice and decision-making in educational markets. *Proceedings of the Annual Conference of the British Educational Research Association*, 13-15 September 2001, Leeds. Southampton: Centre for Research in Education Marketing, University of Southampton.
- Hemsley-Brown, J. and Goonawardana, S., 2007. Brand harmonization in the international higher education market. *Journal of Business Research*, 60(9), 942-948.
- Hemsley-Brown, J. and Oplatka, I., 2006. Universities in a competitive global marketplace: a systematic review of the literature on higher education marketing. *International Journal of Public Sector Management*, 19(4), 316-338.
- Heriot-Watt University, 2011. *Heriot-Watt University: Scotland's international university*. Edinburgh: Heriot-Watt University.
- Hesketh, A.J. and Knight, P.T., 1999. Postgraduates' choice of programme: helping universities to market and postgraduates to choose. *Studies in Higher Education*, 24(2), 151-163.
- Hindess, B., 1977. *Philosophy and methodology in social science*. Hassocks: Harvester.
- Hodkinson, P., Sparkes, A. and Hodkinson, H., 1996. *Triumphs and tears: young people, markets and the transition from school to work*. London: David Fulton.
- Hoe, S.L., 2008. Issues and procedures in adopting structural equation modelling technique. *Journal of Applied Quantitative Methods*, 3(1), 76-83.
- Hoelter, J.W., 1983. The analysis of covariance structures: goodness-of-fit indices. *Sociological Methods and Research*, 11(3), 325-344.
- Hong, S.Y. and Yang, S.U., 2009. Effects of reputation, relational satisfaction, and customer-company identification on positive word-of-mouth intentions. *Journal of Public Relations Research*, 21(4), 381-403.
- Hossler, D., 1985. *A research overview of student college choice*. Chicago: Association for the Study of Higher Education.
- Howe, K., 1988. Against the quantitative-qualitative incompatibility thesis – or Dogmas die hard. *Educational Researcher*, 17(8), 10-16.
- Hu, L. and Bentler, P.M., 1999. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55.

- Huang, F., 2007. Internationalization of higher education in the developing and emerging countries: a focus on transnational higher education in Asia. *Journal of Studies in International Education*, 11(3/4), 421-432.
- Huisman, J., 2007. Research on the internationalisation of higher education: the state of the art. Paper prepared for the Seminar on the Internationalisation of Higher Education, Department of Education, University of Bath, 4 July 2007. Bath: University of Bath.
- Huisman, J., Norgård, J.D., Rasmussen, J.G. and Stensaker, B. (2002). 'Alternative' universities revisited: a study of the distinctiveness of universities established in the spirit of 1968. *Tertiary Education and Management*, 8(4), 315-332.
- Huisman, J. and Van der Wende, M., eds., 2004. *On cooperation and competition. National and European policies for the internationalisation of higher education*. Bonn: Lemmens.
- Huisman, J. and Van der Wende, M., eds., 2005. *On cooperation and competition II: institutional responses to internationalisation, Europeanisation and globalisation*. Bonn: Lemmens.
- Hunt, S.D., 1991. Positivism and paradigm dominance in consumer research: toward critical pluralism and rapprochement. *Journal of Consumer Research*, 18(1), 32-44.
- Iacobucci, D. and Duhachek, A., 2003. Advancing alpha: measuring reliability with confidence. *Journal of Consumer Psychology*, 13(4), 478-487.
- Ind, N., 1992. *The corporate image: strategies for effective identity programmes*. London: Kogan Page.
- Ivy, J., 2001. Higher education institutional image: a correspondence analysis approach. *The International Journal of Educational Management*, 15(6), 276-282.
- Iwama, H.F., 1990. *Factors influencing transculturation of Japanese overseas teenagers*. Doctoral dissertation, Pennsylvania State University College of Education.
- Jackson, G.A., 1982. Public efficiency and private choice in higher education. *Educational Evaluation and Policy Analysis*, 4(2), 237-247.
- Janssens, W., Wijnen, K., De Pelsmacker, P. and Van Kenhove, P., 2008. *Marketing research with SPSS*. Harlow: Pearson Education.
- Jefferies, B., 2011. *Critical realism: an empirical realist critique*. Working paper 11-03. Manchester: Manchester Metropolitan University Business School. Available from: <http://www.ribm.mmu.ac.uk/wps/papers/11-03.pdf> [Accessed 20 August 2012].
- Johnson, P. and Duberley, J., 2000. *Understanding management research: an introduction to epistemology*. London: Sage.
- Jolliffe, I.T., 1986. *Principal component analysis*. New York: Springer.
- Jongbloed, B., 2003. Marketisation in higher education: Clarke's triangle and the essential ingredients of markets. *Higher Education Quarterly*, 57(2), 110-135.

- Joseph, M. and Joseph, B., 1998. Identifying needs of potential students in tertiary education for strategy development. *Quality Assurance in Education*, 6(2), 90-96.
- Joseph, M. and Joseph, B., 2000. Indonesian students' perceptions of choice criteria in the selection of a tertiary institution: strategic implications. *International Journal of Educational Management*, 14(1), 40-44.
- Karaosmanoğlu, E., Baş, A.B.E. and Zhang, J., 2011. The role of other customer effect in corporate marketing: its impact on corporate image and consumer-company identification. *European Journal of Marketing*, 45(9/10), 1416-1445.
- Karaosmanoglu, E. and Melewar, T.C., 2006. Corporate communications, identity and image: a research agenda. *Journal of Brand Management*, 14(1/2), 196-206.
- Kazoleas, D., Kim, Y. and Moffitt, M.A., 2001. Institutional image: a case study. *Corporate Communications: An International Journal*, 6(4), 205-216.
- Keen, C. and Warner, D., 1989. *Visual and corporate identity: a study of identity programmes in the college, polytechnic and university environment*. Leeds: Heist Publications.
- Kehm, B.M. and Teichler, U., 2007. Research on internationalisation in higher education. *Journal of Studies in Higher Education*, 11(3/4), 260-273.
- Keller, K.L. and Staelin, R., 1987. Effects of quality and quantity of information on decision effectiveness. *Journal of Consumer Research*, 14(2), 200-213.
- Kelo, M., Teichler, U. and Wächter, B., 2006. Toward improved data on student mobility in Europe: findings and concepts of the Eurodata study. *Journal of Studies in International Education*, 10(3), 194-223.
- Kerr, C., 2001. *The uses of the university*. Cambridge: Harvard University Press.
- Kiel, G., 1998. Research and education: marketing in the future. *Australasian Marketing Journal*, 6(1), 23-29.
- Kim, T., Chang, K. and Ko, Y.J., 2010. Determinants of organisational identification and supportive intentions. *Journal of Marketing Management*, 26(5/6), 413-427.
- King, R., Findlay, A. and Ahrens, J., 2010. *International student mobility literature review*. Bristol: HEFCE.
- Klassen, M., 2002. Relationship marketing on the Internet: the case of top and lower ranked universities and colleges. *Journal of Retailing and Consumer Services*, 9(2), 81-85.
- Kline, R.B., 1998. *Principles and practice of structural equation modelling*. New York: Guilford Press.
- Klinke, S., Mihoci, A. and Härdle, W., 2010. Exploratory factor analysis in MPlus, R and SPSS. Invited paper ICOTS8 of the International Association of Statistical Education.

- Knight, J., 2004. Quality assurance and recognition of qualifications in post-secondary education in Canada. In: OECD, ed. *Quality and recognition in higher education: the cross-border challenge*. Paris: OECD, pp. 43-62.
- Knight, J., 2011a. Five myths about internationalization. *International Higher Education*, No. 62, Winter 2011, 14-15.
- Knight, J., 2011b. Education hubs: a fad, a brand, an innovation? *Journal of Studies in International Education*, 15(3), 221-240.
- Knowledge and Human Development Authority, 2012. *Dubai Schools Inspection Bureau: the overall performance of private schools – key Findings 2011-2012*. Dubai, UAE: Knowledge and Human Development Authority.
- Knox, S. and Bickerton, D., 2003. The six conventions of corporate branding. *European Journal of Marketing*, 37(7/8), 998-1016.
- Kollat, D.T., Engle, J.F. and Blackwell, R.D., 1970. Current problems in consumer behaviour research. *Journal of Marketing Research*, 7(3), 327-332.
- Kotler, P., 1988. *Marketing management, analysis, planning, implementation and control*. Englewood Cliffs: Prentice Hall.
- Kotler, P., 2003. *Marketing management*, 11th edition. Upper Saddle River, NJ: Prentice Hall.
- Kotler, P., Armstrong, G., Wong, V. and Saunders, J., 2008. *Principles of marketing*, 5th European edition. London: Financial Times/Prentice Hall.
- Kotler, P. and Fox, K., 1985. *Strategic marketing for educational institutions*. Upper Saddle River, NJ: Prentice Hall.
- Kotler, P. and Mindak, W., 1978. Marketing and public relations: should they be partners or rivals? *Journal of Marketing*, 42(4), 13-20.
- Krishnan, B.C. and Hartline, M.D., 2001. Brand equity: is it more important in services? *Journal of Services Marketing*, 15(5), 328-342.
- Lane, J.E. and Kinser, K., eds., 2011. *Multinational colleges and universities: leading, governing, and managing international branch campuses*. New Directions for Higher Education, No. 155, Fall 2011. San Francisco: Jossey-Bass.
- Lang, D.W., 2005. 'World class' or the curse of comparison? *Canadian Journal of Higher Education*, 35(3), 27-55.
- Lanzendorf, U. and Teichler, U., 2003. *Statistics on student mobility in European higher education*. Luxembourg: Office for Official Publications of the European Communities.
- Lasanowski, V., 2009. *International student mobility: status report 2009*. London: The Observatory on Borderless Higher Education.
- Lawton, W. and Katsomitros, A., 2012. *International branch campuses: Data and developments*. London: The Observatory on Borderless Higher Education.

- Levy, D.C., 2003. *Expanding higher education capacity through private growth: contributions and challenges*. London: The Observatory on Borderless Higher Education.
- Levy, M., 1996. Current accounts and baked beans: translating FMCG marketing principles to the financial sector. *Journal of Brand Management*, 4(2), 95-99.
- Lewin, T., 2008. U.S. universities rush to set up outposts abroad. *The New York Times*, 28 December. Available from: <http://www.nytimes.com/2008/02/10/education/10global.html> [Accessed 28 October 2011].
- Li, M. and Bray, M., 2007. Cross-border flows of students for higher education: push-pull factors and motivations of mainland Chinese students in Hong Kong and Macau. *Higher Education*, 53(6), 791-818.
- Lien, D., 2008. Economic analysis of transnational education. *Education Economics*, 16(2), 149-166.
- Lipka, S., 2012. The secret of success for a branch campus? It's all in the marketing. *Chronicle of Higher Education*, 12 February. Available from: <http://chronicle.com/article/The-Secret-of-a-Successful/130733/?key=TWN0KQZvM3FNYS4xYzxBt1UaXM5NUx3ZXRD3wmbllTFw%3D%3D> [Accessed 25 February 2012].
- Litten, L.H., 1980. Marketing higher education: a reappraisal. In: *Marketing in college examinations: a broadening of perspectives*. New York: College Entrance Examination Board.
- Lopez, C., Gotsi, M. and Andriopoulos, C., 2011. Conceptualising the influence of corporate image on country image. *European Journal of Marketing*, 45(11/12), 1601-1641.
- Lovelock, C., 1983. Classifying services to gain strategic marketing insights. *Journal of Marketing*, 47(3), 9-20.
- Lowrie, A., 2007. Branding higher education: equivalence and difference in developing identity. *Journal of Business Research*, 60(9), 990-999.
- Luijten-Lub, A., 2007. *Choices in internationalisation: how higher education institutions respond to internationalisation, Europeanisation, and globalisation*. Enschede: CHEPS/University of Twente.
- Luijten-Lub, A., Van der Wende, M. and Huisman, J., 2005. On cooperation and competition: a comparative analysis of national policies for internationalisation of higher education in seven Western European countries. *Journal of Studies in International Education*, 9(2), 147-163.
- Mackay, M.M., 2001. Application of brand equity measures in service markets. *Journal of Services Marketing*, 15(3), 210-221.

- Mael, F. and Ashforth, B.E., 1992. Alumni and their alma mater: a partial test of the reformulated model of organisational identification. *Journal of Organizational Behavior*, 13(2), 103-123.
- Mael, F.A. and Ashforth, B.E., 1995. Loyal from day one: biodata, organizational identification, and turnover among newcomers. *Personnel Psychology*, 48(2), 309-333.
- Maguire, J. and Lay, R., 1981. Modelling the college choice process: image and decision. *College and University*, 56(2), 123-139.
- Manski, C. and Wise, D., 1983. *College choice in America*. Cambridge: Harvard University Press.
- Marginson, S., 2006. Dynamics of national and global competition in higher education. *Higher Education*, 52(1), 1-39.
- Marginson, S. and Van der Wende, M., 2007. *Globalisation and higher education*. OECD Education Working Papers No. 8. Paris: OECD. Available from: http://www.oecd-ilibrary.org/docserver/download/fulltext/51413h92jh5g.pdf?expires=1304855863&id=id&ac_cname=guest&checksum=56D7EE465B82180A5F1136FBACE944DE [Accessed 7 May 2011].
- Maringe, F., 2010. The meanings of globalization and internationalization in HE: findings from a world survey. In: F. Maringe and N. Foskett, eds. *Globalization and internationalisation in higher education*. London: Continuum, pp. 18-34.
- Maringe, F. and Carter, S., 2007. International students' motivations for studying in UK HE: insights into the choice and decision making of African students. *International Journal of Educational Management*, 21(6), 459-475.
- Maringe, F. and Gibbs, P., 2009. *Marketing higher education: theory and practice*. Maidenhead: Open University Press/McGraw-Hill Education.
- Maylor, H. and Blackmon, K., 2005. *Researching business and management*. Basingstoke: Palgrave Macmillan.
- Mazzarol, T., 1998. Critical success factors for international education marketing. *International Journal of Educational Management*, 12(4), 163-175.
- Mazzarol, T. and Hosie, P., 1996. Exporting Australian education: future strategies in a maturing market. *Quality Assurance in Education*, 4(1), 37-50.
- Mazzarol, T. and Soutar, G.N., 1999. Sustainable competitive advantage for educational institutions: a suggested model. *International Journal of Educational Management*, 13(6), 287-300.
- Mazzarol, T. and Soutar, G.N., 2002. "Push-pull" factors influencing international student destination choice. *International Journal of Educational Management*, 16(2), 82-90.
- McBurnie, G. and Pollock, A., 2000. Opportunity and risk in transnational education - issues in planning for international campus development: an Australian perspective. *Higher Education in Europe*, 25(3), 333-343.

- McBurnie, G. and Ziguras, C., 2007. *Transnational education: issues and trends in offshore higher education*. Abingdon: Routledge.
- McCall, A., ed., 2011. *The Sunday Times university guide 2012*. London: The Sunday Times, 11 September.
- McCluskey, K.C., ed., 1994. *Notes from a traveling childhood: readings of internationally mobile parents and children*. Washington, DC: Foreign Service Youth Foundation.
- McDonald, M.H.B., de Chernatony, L. and Harris, F., 2001. Corporate marketing and service brands: moving beyond the fast-moving consumer goods model. *European Journal of Marketing*, 35(3/4), 335-352.
- McLachlan, D.A., 2007. Global nomads in an international school: families in transition. *Journal of Research in International Education*, 6(2), 233-249.
- McMahon, M.E., 1992. Higher education in a world market: an historical look at the global context of international study. *Higher Education*, 24(4), 465-482.
- Melewar, T.C. and Akel, S., 2005. The role of corporate identity in the higher education sector: a case study. *Corporate Communications: An international Journal*, 10(1), 41-57.
- Melewar, T.C. and Jenkins, E., 2002. Defining the corporate identity construct. *Corporate Reputation Review*, 5(1), 76-90.
- Melewar, T.C. and Storrie, T., 2001. Corporate identity in the service sector. *Public Relations Quarterly*, 46(2), 20-26.
- Menon, M.E., 2004. Information search as an indication of rationality in student choice of higher education. *Education Economics*, 12(3), 267-283.
- Mok, K.H., 2008. Singapore's global education hub ambitions: university governance change and transnational higher education. *International Journal of Educational Management*, 22(6), 527-546.
- Mok, K.H., 2011. The quest for regional hub of education: growing heterarchies, organizational hybridisation, and new governance in Singapore and Malaysia. *Journal of Educational Policy*, 26(1), 61-81.
- Moogan, Y.J., Baron, S. and Bainbridge, S., 2001. Timings and trade-offs in the marketing of higher education courses: a conjoint approach. *Marketing Intelligence & Planning*, 19(3), 179-187.
- Moorthi, Y.L.R., 2002. An approach to branding services. *Journal of Services Marketing*, 16(3), 259-274.
- Morgan, J., 2011. Home and away: UK study on foreign soil. *Times Higher Education*, 20 January, p. 8.
- Morshidi, S., 2005. *Transnational higher education in Malaysia: balancing benefits and concerns through regulations*. Minden, Malaysia: National Higher Education Institute.

- Mortimer, K., 1997. Recruiting overseas undergraduate students: are their information requirements being satisfied? *Higher Education Quarterly*, 51(3), 225-238.
- Murphy, P., 1981. Consumer buying roles in college choice: parents' and students' perceptions. *College and University*, 56(2), 140-150.
- Naidoo, R., 2003. Repositioning higher education as a global commodity: opportunities and challenges for future sociology of education work. *British Journal of Sociology of Education*, 24(2), 248-258.
- Naidoo, R., 2007. *Higher education as a global commodity: the perils and promises for developing countries*. London: The Observatory on Borderless Higher Education.
- Naidoo, V., 2009. Transnational higher education: a stock take of current activity. *Journal of Studies in International Education*, 13(3), 310-330.
- Newman, C.M., 2002. The current state of marketing activity among higher education institutions. *Journal of Marketing for Higher Education*, 12(1), 15-29.
- Ng, P.T. and Tan, C., 2010. The Singapore global schoolhouse: an analysis of the development of the tertiary education landscape in Singapore. *International Journal of Educational Management*, 24(3), 178-188.
- Nguyen, N. and LeBlanc, G., 2001. Image and reputation of higher educational institutions in students' retention decisions. *International Journal of Educational Management*, 15(6), 303-311.
- Nicholls, J., Harris, J., Morgan, E. Clarke, K. and Sims, D., 1995. Marketing higher education: the MBA experience. *International Journal of Educational Management*, 9(2), 31-38.
- Nordstrom, A.D., 1997. Adult students a valuable market to target. *Marketing News*, 31(19), 20.
- Nowak, G.J. and Phelps, J., 1994. Conceptualizing the integrated marketing communications phenomenon: an examination of its impact on advertising practices and its implications for marketing research. *Journal of Current Issues and Research in Advertising*, 16(1), 49-66.
- Nunnally, J.C., 1978. *Psychometric theory*, 2nd edition. New York: McGraw-Hill.
- Oakes, P. and Turner, J.C., 1986. Distinctiveness and the salience of social category memberships: is there an automatic perceptual bias towards novelty? *European Journal of Social Psychology*, 16(4), 325-344.
- OBHE, 2009. *India's latest branch campus and higher education investments in the United Arab Emirates and Qatar: meeting both sides' development needs*. London: The Observatory on Borderless Higher Education.
- OECD, 2003. *Glossary of statistical terms: Foreign students*. Available from: <http://stats.oecd.org/glossary/detail.asp?ID=1052> [Accessed 2 August 2011].

- OECD, 2004. *Internationalization and trade of higher education: challenges and opportunities*. Paris: Organisation for economic co-operation and Development.
- OECD, 2004a. *OECD science, technology and industry outlook*. Paris: OECD.
- OECD, 2011. *Higher education at a glance*. Paris: OECD.
- Olins, W., 1978. Corporate identity: the myth and the reality. In: J.M.T. Balmer and S.A. Greyser, eds., *Revealing the Corporation: Perspectives on Identity, Image, Reputation, Corporate Branding, and Corporate-level Marketing*. London: Routledge, pp. 53-65.
- Olins, W., 1995. *The new guide to identity*. Aldershot: Gower.
- Oplatka, I., 2002. Implicit contradictions in public messages of 'low satisfied' HE institutions: the case of Israeli teacher training colleges. *International Journal of Educational Management*, 16(5), 248-256.
- Oplatka, I. and Hemsley-Brown, J., 2004. The research on school marketing: current issues, future directions. *Journal of Educational Administration*, 42(3), 375-400.
- Oplatka, I. and Hemsley-Brown, J., 2010. The globalisation and marketization of higher education: some insights from the standpoint of institutional theory. In: F. Maringe and N. Foskett, eds., *Globalization and internationalization in higher education: theoretical, strategic and management perspectives*. London: Continuum, pp. 65-80.
- Opoku, R.A., Caruana, A., Pitt, L., Berthon, P., Wahlstrom, A. and Nel, D., 2009. Online communication of brand personality: a study of MBA programs of top business schools. *Journal of General Management*, 35(1), 47-64.
- Otubanjo, B.O. and Melewar, T.C., 2007. Understanding the meaning of corporate identity: a conceptual and semiological approach. *Corporate Communications: An International Journal*, 12(4), 414-432.
- Padlee, S.F., Kamaruddin, A.R. and Baharun, R., 2010. International students' choice behaviour for higher education at Malaysian private universities. *International Journal of Marketing Studies*, 2(2), 202-211.
- Palacio, A.B., Meneses, G.D. and Pérez, P.J.P., 2002. The configuration of the university image and its relationship with the satisfaction of students. *Journal of Educational Administration*, 40(5), 486-505.
- Pampaloni, A.M., 2010. The influence of organizational image on college selection: what students seek in institutions of higher education. *Journal of Marketing for Higher Education*, 20(1), 19-48.
- Park, C.W., Jaworski, B.J. and MacInnis, D.J., 1986. Strategic brand concept-image management. *Journal of Marketing*, 50(4), 135-145.
- Phillips, D.C., 1987. *Philosophy, science and social inquiry*. Oxford: Pergamon.

- Pimpa, N., 2005. Marketing Australian universities to Thai students. *Journal of Studies in International Education*, 9(2), 137-146.
- Pollock, D.C. and Van Reken, R.E., 2001. *Third culture kids: the experience of growing up among worlds*. London: Nicholas Brealey.
- Popper, K., 1959. *The logic of scientific discovery*. London: Hutchinson.
- Pratt, M.G., 1998. To be or not to be: central questions in organizational identification. In D.A. Whetten and P.C. Godfrey, eds., *Identity in organizations: building theory through conversations*. Thousand Oaks, CA: Sage, pp. 171-207.
- Priester, J.R., 2010. The use of structural equation models in consumer psychology: a methodological dialogue on its contributions, cautions and concerns. *Journal of Consumer Psychology*, 20(2), 205-207.
- Reade, C., 2001. Antecedents of organizational identification in multinational corporations: fostering psychological attachment to the local subsidiary and the global organization. *International Journal of Human Resource Management*, 12(8), 1269-1291.
- Ressler, J. and Abratt, R., 2009. Assessing the impact of university reputation on stakeholder intentions. *Journal of General Management*, 35(1), 35-45.
- Roberts, K., 1984. *School leavers and their prospects: youth in the labour market in the 80s*. Milton Keynes: Open University Press.
- Robson, C., 2002. *Real world research*, 2nd edition. Oxford: Blackwell.
- Ryrie, A.C., 1981. *Routes and results: a study of the later years of schooling*. Sevenoaks: Hodder and Stoughton.
- Saunders, M., Lewis, P. and Thornhill, A., 2009. *Research methods for business students*, Fifth edition. Harlow: Pearson.
- Schaetti, B.F., 1998. What is a global nomad? *International Schools Journal*, 1(1), 13.
- Schuh, S.C., Egold, N.W. and van Dick, R., 2012. Towards understanding the role of organizational identification in service settings: a multilevel study spanning leaders, service employees, and customers. *European Journal of Work and Organizational Psychology*, 21(4), 547-574.
- Schultz, D.E., Tannenbaum, S.I. and Lauterborn, R.F., 1993. *The new marketing paradigm: integrated marketing communications*. Lincolnwood, IL: NTC.
- Schultz, M., Antorini, Y. and Csaba, F., 2005. *Towards the second wave of corporate branding*. Gylling: Copenhagen Business School Press.
- Schumacker, R.E. and Lomax, R.G., 2004. *A beginner's guide to structural equation modelling*, 2nd edition. Mahwah, NJ: Lawrence Erlbaum.

- Scott, P., 1998. Massification, internationalization and globalization. In: P. Scott, ed. *The globalization of higher education*. Buckingham: Society for Research into Higher Education/Open University Press, pp. 108-129.
- Scott, P., 2000. Globalisation and higher education: challenges for the twenty first century. *Journal of Studies in International Education*, 4(1), 3-10.
- Scott, S.G. and Lane, V.R., 2000. A stakeholder approach to organizational identity. *Academy of Management Review*, 25(1), 43-62.
- Sears, C., 1998. *Second-language students in mainstream classrooms: a handbook for teachers in international schools*. Clevedon, Multilingual Matters.
- Seneca, J. and Taussig, M., 1987. The effects of tuition and financial aid on the enrollment decision at a state university. *Research in Higher Education*, 26(4), 337-362.
- Shams, F. and Huisman, J., 2012. Managing offshore branch campuses: an analytical framework for institutional strategies. *Journal of Studies in International Education*, 16(2), 106-127.
- Shanka, T., Quintal, V. and Taylor, R., 2005. Factors influencing international students' choice of an education destination – a correspondence analysis. *Journal of Marketing for Higher Education*, 15(2), 31-46.
- Shostack, G.L., 1977. Breaking free from product marketing. *Journal of Marketing*, 41(2), 73-80.
- Sidhu, R., Ho, K.C. and Yeoh, B., 2010. Emerging education hubs: the case of Singapore. *Higher Education*, published online 12 March 2010, DOI 10.1007/s10734-010-9323-9 [Accessed 10 May 2011].
- Simões, C., and Soares, A.M., 2010. Applying to higher education: information sources and choice factors. *Studies in Higher Education*, 35(4), 371-389.
- Singh, S., 2009. *Indian varsities fuel Mauritius' 'knowledge hub' dream*. Available from: <http://www.newkerala.com/news/world/fullnews-149139.html> [Accessed 10 May 2011].
- Sojkin, B., Bartkowiak, P. and Skuza, A., 2012. Determinants of higher education choices and student satisfaction: the case of Poland. *Higher Education*, 63(5), 565-581.
- Soutar, G. and Turner, J., 2002. Students' preferences for university: a conjoint analysis. *International Journal of Educational Management*, 16(1), 40-45.
- Steger, M.B., 2003. *Globalisation: a very short introduction*. Oxford: Oxford University Press.
- Stensaker, B., 2004. *The transformation of organizational identities*. Enschede: CHEPS, University of Twente.
- Stensaker, B., 2007. The relationship between branding and organisational change. *Higher Education Management and Policy*, 19(1), 13-29.

- Stensaker, B., Frølich, N., Gornitzka, A. and Maassen, P., 2008. Internationalisation of higher education: the gap between national policy-making and institutional needs. *Globalisation, Societies and Education*, 6(1), 1-11.
- Stensaker, B., Henkel, M., Välimaa, J. and Sarrico, C.S., 2012. Introduction: how is change in higher education managed? In: B. Stensaker, J. Välimaa and C.S. Sarrico, eds., *Managing reform in universities: the dynamics of culture, identity and organizational change*. Basingstoke: Palgrave Macmillan, pp. 1-16.
- Stevens, J.P., 2002. *Applied multivariate statistics for the social sciences*, 4th edition. Hillsdale, NJ: Erlbaum.
- Strong, C.A., 2006. Is managerial behaviour a key to effective customer orientation? *Total Quality Management and Business Excellence*, 17(1), 97-115.
- Strong, C.A. and Harris, L.C., 2004. The drivers of customer orientation: an exploration of relational, human resource and procedural tactics. *Journal of Strategic Marketing*, 12(3), 183-204.
- Stuart, H., 1999. Towards a definitive model of the corporate identity management process. *Corporate Communications: An International Journal*, 4(4), 200-207.
- Sung, M. and Yang, S., 2008. Toward the model of university image: the influence of brand personality, external prestige, and reputation. *Journal of Public Relations Research*, 20(4), 357-376.
- Szekeres, J., 2010. Sustaining student numbers in the competitive marketplace. *Journal of Higher Education Policy and Management*, 32(5), 429-439.
- Tajfel, H., ed., 1978. *Differentiation between social groups. Studies in the social psychology of intergroup relations*. London: Academic Press.
- Tajfel, H. and Turner, J.C., 1986. The social identity theory of intergroup behaviour. In: S. Worchel and W.G. Austin, eds., *Psychology of intergroup relations*. Chicago: Nelson-Hall, pp. 7-24.
- Tham, S.Y. and Kam, A.J.Y., 2008. Internationalising higher education: comparing the challenges of different higher education institutions in Malaysia. *Asia Pacific Journal of Education*, 28(4), 353-367.
- Tierney, M., 1983. Student college choice sets: toward an empirical characterization. *Research in Higher Education*, 18(3), 271-284.
- Tight, M., 2004. Research into higher education: an a-theoretical community of practice? *Higher Education Research and Development*, 23(3), 395-411.
- Turley, L.W. and Moore, P.A., 1995. Brand name strategies in the service sector. *Journal of Consumer Marketing*, 12(4), 42-50.

- Turner, J.C., Hogg, M.A., Oakes, P.J., Reicher, S.D. and Wetherell, M.S., 1987. *Rediscovering the social group. A self-categorization theory*. Oxford: Blackwell.
- Tysome, T., 2004. Hard sell in an Asian market. *Times Higher Education Supplement*, 26 February. Available from: <http://www.timeshighereducation.co.uk/story.asp?storyCode=188199§ioncode=26> [Accessed 19 November 2009].
- UAE Interact, 2012. UAE population put at 7.2 million. Available from: http://www.uaeinteract.com/docs/UAE_population_put_at_7.2_million/48889.htm [Accessed 15 August 2012].
- Uehara, A., 1986 *Comparison of re-entry adjustments between Japanese and American students: an interactionist perspective*. PhD thesis, University of Minnesota.
- Useem J., Donoghue, J.D. and Useem, R.H., 1963. Men in the middle of the third culture. *Human Organization*, 22(3), 169-179.
- Useem, R.H. and Downie, R., 1976. Third-culture kids. *Today's Education: The Journal of the National Education Association*, 65(3), 103-105.
- Van Dick, R., 2001. Identification in organisational contexts: linking theory and research from social and organisational psychology. *International Journal of Management Reviews*, 3(4), 265-283.
- Van Riel, C.B.M., 1995. *Principles of Corporate Communication*. London: Prentice-Hall.
- Van Riel, C.B.M., 2003. The management of corporate communication. In: J.M.T. Balmer and S.A. Greyser, eds., *Revealing the corporation: perspectives on identity, image, reputation, corporate branding, and corporate-level marketing*. London: Routledge, pp. 161-170.
- Van Vught, F.A., Van der Wende, M.C. and Westerheijden, D.F., 2002. Globalisation and internationalisation: policy agendas compared. In: J. Enders and O. Fulton, eds. *Higher education in a globalising world: international trends and mutual observations*. Dordrecht: Kluwer, pp. 103-120.
- Vargo, S.L. and Lusch, R.F., 2004. The four service marketing myths: remnants of a goods-based, manufacturing model. *Journal of Service Research*, 6(4), 324-335.
- Verbik, L. and Merkley, C., 2006. *The international branch campus – models and trends*. London: The Observatory on Borderless Higher Education.
- Verger, A., 2009. GATs and higher education: state of play of the liberalization commitments. *Higher Education Policy*, 22(2), 225-244.
- Vrontis, D., Thrassou, A. and Melanthiou, Y., 2007. A contemporary higher education student-choice model for developed countries. *Journal of Business Research*, 60(9), 979-989.
- Wæraas, A. and Solbakk, M.N., 2009. Defining the essence of a university: lessons from higher education branding. *Higher Education*, 57(4), 449-462.

- Wansink, B., Kent, R.J. and Hoch, S.J., 1998. An anchoring and adjustment model of purchase quantity decisions. *Journal of Marketing Research*, 35(1), 71-81.
- Wilkins, S, 2001. Student and employer perceptions of British higher education in the Arabian Gulf region. *Research in Post-Compulsory Education*, 6(2), 157-174.
- Wilkins, S., 2010. Higher education in the United Arab Emirates: an analysis of the outcomes of significant increases in supply and competition. *Journal of Higher Education Policy and Management*, 32(4), 1-12.
- Wilkins, S., 2011. Who benefits from foreign universities in the Arab Gulf States? *Australian Universities' Review*, 53(1), 73-83.
- Wilkins, S. and Huisman, J., 2011a. Student recruitment at international branch campuses: can they compete in the global market? *Journal of Studies in International Education*, 15(3), 299-316.
- Wilkins, S. and Huisman, J., 2011b. International student destination choice: the influence of home campus experience on the decision to consider branch campuses. *Journal of Marketing for Higher Education*, 21(1), 65-87.
- Wilkins, S. and Huisman, J., 2011c. UK business school rankings over the last 30 years (1980-2010): trends and explanations. *Higher Education*, 63(3), 367-382.
- Wilkins, S., Balakrishnan, M.S. and Huisman, J., 2012. Student choice in higher education: motivations for choosing to study at an international branch campus. *Journal of Studies in International Education*, 16(5), 413-433.
- Wilkins, S. and Huisman, J., 2012a. The international branch campus as transnational strategy in higher education. *Higher Education*, 64(5), 627-645.
- Wilkins, S., and Huisman, J. 2012b. UK business school rankings over the last 30 years (1980-2010): trends and explanations. *Higher Education*, 63(3), 367-382.
- Wilkins, S., Shams, F. and Huisman, J., 2012. The decision-making and changing behavioural dynamics of potential higher education students: the impacts of increasing tuition fees in England. *Educational Studies*, published online, 27 April 2012, DOI: 10.1080/03055698.2012.681360.
- Williams, S.L. and Moffitt, M.A., 1997. Corporate image as an impression formation process: prioritising personal, organizational, and environmental audience factors. *Journal of Public Relations Research*, 9(4), 237-258.
- Witte, S., 2010. Gulf State branch campuses: global student recruitment. *International Higher Education*, 58. Available from: http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/Number58/p5_Witte.htm [Accessed 13 February 2010].

- Wu, W. and Tsai, C., 2007. The empirical study of CRM: consumer-company identification and purchase intention in the direct selling industry. *International Journal of Commerce and Management*, 17(3), 194-210.
- Yang, R., 2002. University internationalisation, its meanings, rationales and implications. *Intercultural Education*, 13(1), 81-99.
- Zeithaml, V.A., Parasuraman, A. and Berry, L.L., 1985. Problems and strategies in services marketing. *Journal of Marketing*, 49(2), 33-46.
- Ziguras, C., 2001. Educational technology in transnational higher education in South East Asia: the cultural politics of flexible learning. *Educational Technology and Society*, 4(4), 8-18.

Appendix 1. Pilot study questions.

School:	Name:	M / F	Year:	Curriculum:
---------	-------	-------	-------	-------------

1. Name three branch campuses you are familiar with. (Mention AUD, AUS).
2. Which do you think is the top/most prestigious university in the UAE? Why?
3. Which do you think is one of the least reputable universities in the UAE? Why?
4. How much research have you done on universities/higher education?
5. Which are your preferred sources of information?
6. How important to you is the advice you get from parents / family / teachers / advisers / friends?
7. What criteria do you use to judge a university?
8. Which university do you want to go to? UAE / elsewhere? Why?
9. Which university in the UAE offers the highest quality education?
10. Which university in the UAE offers the best student experience?

11. There are over 70 private universities in the UAE. Which stand out for you as being different? Why?
12. Which country has the best higher education? Why?
13. You have a personality. If universities also have personalities, which university in the UAE would be closest to you?
14. Do you feel a connection with any particular universities in the UAE?
15. If you had to go to a university in the UAE, which one? Why?

FEEDBACK ON QUESTIONNAIRE

TIME TAKEN TO COMPLETE:

1. Were all the instructions clear?
2. Were any questions unclear?
3. Did you notice any mistakes or errors?
4. Were there any questions you felt uncomfortable answering?
5. Can you think of any other suitable questions?
6. Can you suggest any improvements to the questionnaire? Or any other comments?

Appendix 2. Final survey questionnaire.

NOTE: As the margin sizes of this thesis are different to that of the questionnaire distributed to students, the questionnaire as shown below is not exactly as the respondents would have seen it.

UNIVERSITY OF BATH

SURVEY ON STUDENT PERCEPTIONS OF UNIVERSITY BRANCH CAMPUSES IN THE UAE

This survey is about **your perceptions** of the **branch campuses of foreign universities** in the UAE, such as Middlesex University Dubai (MUD), New York University Abu Dhabi and the University of Wollongong in Dubai (UOWD).

It does **not** include institutions which (1) do not operate under the name of a specific foreign institution or (2) are not actually based outside the UAE, e.g. American University in Dubai and the American University of Sharjah.

The term '*home campus*' refers to the location where a university is based e.g. London, England for MUD or Wollongong, Australia for UOWD.

This questionnaire consists of **four pages**. Please answer **all questions**.

The actual questionnaire given to students consisted of two double-sided pages.

A. ABOUT YOU Please tick the appropriate boxes or write answers as required.

1. **Gender** Male ☐ Female ☐

2. **Nationality** _____

3. **Year of study** Year 11 ☐ Year 12 ☐ Year 13 ☐

4. **Curriculum studied (course/country)** e.g. A-Level, IB Diploma, CBSE

5. **Father's occupation (or main parent/guardian)** Please tick only **one** box.

Professional/high managerial ☐

Managerial ☐ Supervisory/clerical/administrative ☐ Skilled e.g. construction ☐

Semi-skilled/unskilled e.g. driver, retail ☐ Other ☐

6. **What subject do you intend to study at university?** _____

7. **Have you already made any higher education applications?** Yes ☐ No ☐

8. If 'yes' to Q7, what is your 'first choice' institution? Name: _____

Country: _____

B. YOUR OVERALL IMPRESSIONS OF UNIVERSITY BRANCH CAMPUSES IN THE UAE

To what extent do you think each of the following influences your overall impression of a particular branch campus?

Please **circle** your chosen answer. Please answer all questions.

		1 Not at all	2 To a very small extent	3 To a small extent	4 To a moderate extent	5 To a large extent	6 To a very large extent	7 To an extreme large extent
9	Attractiveness of campus in UAE	1	2	3	4	5	6	7
10	Location of campus in UAE	1	2	3	4	5	6	7
11	Availability of sports & leisure facilities	1	2	3	4	5	6	7
12	Home campus is in an attractive town/city	1	2	3	4	5	6	7
13	Historic campus in home country	1	2	3	4	5	6	7
14	Has educated Nobel prize winners	1	2	3	4	5	6	7
15	Holds international accreditations	1	2	3	4	5	6	7
16	Information on university web sites	1	2	3	4	5	6	7
17	University prospectuses/literature	1	2	3	4	5	6	7
18	Information gained at university open days	1	2	3	4	5	6	7
19	News stories in the media – good or bad	1	2	3	4	5	6	7
20	Position of university in rankings	1	2	3	4	5	6	7
21	Feedback from current/past students	1	2	3	4	5	6	7
22	Recommendations of parents/family	1	2	3	4	5	6	7
23	Recommendations of teachers	1	2	3	4	5	6	7
24	Quality of library & learning resources	1	2	3	4	5	6	7
25	Range of courses offered in UAE	1	2	3	4	5	6	7
26	Entry requirements in UAE	1	2	3	4	5	6	7
27	Level of tuition fees in UAE	1	2	3	4	5	6	7
28	University is well-known worldwide	1	2	3	4	5	6	7
29	University staff visiting my school	1	2	3	4	5	6	7
30	Education fairs e.g. GETEX, British Council	1	2	3	4	5	6	7
31	Social media and Internet blogs	1	2	3	4	5	6	7
32	Government inspection reports e.g. UQAIB	1	2	3	4	5	6	7
33	Recommendations of careers/HE adviser	1	2	3	4	5	6	7
34	My experience at a university open day	1	2	3	4	5	6	7
35	Personal communications with universities	1	2	3	4	5	6	7
36	Size of university in UAE	1	2	3	4	5	6	7
37	Quality of education at UAE campus	1	2	3	4	5	6	7
38	Employs the top professors	1	2	3	4	5	6	7
39	University has a prestigious brand name	1	2	3	4	5	6	7
40	Home campus is in an attractive country	1	2	3	4	5	6	7
41	UAE campus has small class sizes	1	2	3	4	5	6	7

C. ASSESSMENT OF UNIVERSITY ATTRACTIVENESS

Please indicate which **one** of the following universities in the UAE you are most familiar with.

Heriot-Watt University in Dubai ☐

Manipal University Dubai ☐

Middlesex University ☐

New York University Abu Dhabi (NYUAD) ☐

University of Wollongong in Dubai (UOWD) ☐

For the remainder of this questionnaire, all questions relate to the one university you chose above.

To what extent do you agree with the following statements for the university indicated above?
Please **circle** your chosen answer. Please answer all questions.

		1 Strongly disagree	2 Mostly disagree	3 Slightly disagree	4 Neither agree nor disagree	5 Slightly agree	6 Mostly agree	7 Strongly agree
42	People generally think highly of this university	1	2	3	4	5	6	7
43	My friends would be impressed if I went here	1	2	3	4	5	6	7
44	Professors in other unis. look down on this uni.	1	2	3	4	5	6	7
45	This uni. is a top uni. in its home country	1	2	3	4	5	6	7
46	This uni. achieves high positions in rankings	1	2	3	4	5	6	7
47	This uni. specialises in particular subject areas	1	2	3	4	5	6	7
48	This uni. does not have a clear mission and strategy	1	2	3	4	5	6	7
49	This university has a unique campus	1	2	3	4	5	6	7
50	This university is well managed	1	2	3	4	5	6	7
51	My parents would be proud if I went here	1	2	3	4	5	6	7
52	My teachers have recommended this uni.	1	2	3	4	5	6	7
53	This uni. gets mainly positive coverage in the media	1	2	3	4	5	6	7
54	Programmes have international accreditation	1	2	3	4	5	6	7
55	This uni. is highly respected by employers	1	2	3	4	5	6	7
56	This uni. is very difficult to get into	1	2	3	4	5	6	7
57	This uni. is one of the top unis. in the UAE	1	2	3	4	5	6	7
58	This uni. appeals to a specific sort of person	1	2	3	4	5	6	7
59	This uni.'s campus has a distinctive atmosphere	1	2	3	4	5	6	7

60	This uni. does not have a good reputation in the UAE	1	2	3	4	5	6	7
61	This uni. is known for strong student care	1	2	3	4	5	6	7
62	Employers like to recruit this uni.'s graduates	1	2	3	4	5	6	7
63	This uni. achieves good quality audits/reports	1	2	3	4	5	6	7
64	I would feel a sense of achievement to study here	1	2	3	4	5	6	7
65	This uni. is different from other unis. in the UAE	1	2	3	4	5	6	7
66	Other students in my school think highly of this uni.	1	2	3	4	5	6	7

D. STUDENT-UNIVERSITY IDENTIFICATION

This section is about how you relate to the university you selected at the start of Section C.
To what extent do you agree with the following statements?

Please **circle** your chosen answer. Please answer all questions.

		1 Strongly disagree	2 Mostly disagree	3 Slightly disagree	4 Neither agree nor disagree	5 Slightly agree	6 Mostly agree	7 Strongly agree
67	I think about this university a lot	1	2	3	4	5	6	7
68	I like that this university is very important to the UAE	1	2	3	4	5	6	7
69	I like that this uni. has many outstanding features	1	2	3	4	5	6	7
70	I think I would fit in at this university	1	2	3	4	5	6	7
71	This university and I share similar values	1	2	3	4	5	6	7
72	I think I would not be happy studying at this uni.	1	2	3	4	5	6	7
73	Studying here would be an indicator of my success	1	2	3	4	5	6	7
74	An education from this uni. is valued worldwide	1	2	3	4	5	6	7
75	Students from this uni. do not gain respect or admiration	1	2	3	4	5	6	7
76	I would feel a sense of achievement if I studied here	1	2	3	4	5	6	7
77	It appeals to me that this uni. has a well-known brand name/ identity	1	2	3	4	5	6	7
78	This uni. appeals only to a certain type of student	1	2	3	4	5	6	7
79	My personality matches the personality of this uni.	1	2	3	4	5	6	7
80	Graduates from this uni. are desired by the top companies	1	2	3	4	5	6	7
81	I would feel proud to be a student at this uni.	1	2	3	4	5	6	7

82	Nothing positive stands out this uni. from other unis.	1	2	3	4	5	6	7
83	People like me do not study at this uni.	1	2	3	4	5	6	7
84	Studying at this uni. would enhance my social status	1	2	3	4	5	6	7
85	My friends would be impressed if I studied here	1	2	3	4	5	6	7
86	I like that this uni. is a leading university in the UAE	1	2	3	4	5	6	7
87	Students who go to this uni. are similar to me	1	2	3	4	5	6	7
88	It is not a great achievement to study at this uni.	1	2	3	4	5	6	7
89	Studying here would make me feel good about myself	1	2	3	4	5	6	7

E. SUPPORTIVE INTENTIONS

This section is about how you might in future interact with the university you selected at the start of Section C.

To what extent do you agree with the following statements?

Please **circle** your chosen answer. Please answer all questions.

		1 Strongly disagree	2 Mostly disagree	3 Slightly disagree	4 Neither agree nor disagree	5 Slightly agree	6 Mostly agree	7 Strongly agree
90	This uni. is/will be on my shortlist of unis. to attend	1	2	3	4	5	6	7
91	I will try to find out more about this university	1	2	3	4	5	6	7
92	I am determined to gain a place at this uni.	1	2	3	4	5	6	7
93	I would recommend this uni. to my friends	1	2	3	4	5	6	7
94	People like me want to attend this university	1	2	3	4	5	6	7
95	I would attend an educational event at this uni.	1	2	3	4	5	6	7
96	I visit/will visit this uni.'s web site regularly	1	2	3	4	5	6	7
97	I will not apply to this university	1	2	3	4	5	6	7
98	I would donate money to a charity event at this uni.	1	2	3	4	5	6	7
99	I would attend a talk at my school given by this uni.	1	2	3	4	5	6	7
100	I like/would like to visit this uni.'s campus	1	2	3	4	5	6	7
101	I like to talk about this uni. with friends and family	1	2	3	4	5	6	7
102	This uni. is one of my preferred unis. to attend	1	2	3	4	5	6	7

103	I would participate in a survey organised by this uni.	1	2	3	4	5	6	7
104	People like me do not go to this university	1	2	3	4	5	6	7
105	I would be happy to regularly receive a student magazine from this university	1	2	3	4	5	6	7
106	I would not like it if friends or family criticised this university	1	2	3	4	5	6	7
107	I would be proud to wear a T-shirt bearing this university's name	1	2	3	4	5	6	7
108	I would encourage my parents to support this university e.g. providing work placements	1	2	3	4	5	6	7
109	A negative story in the media would not make me think less of this university	1	2	3	4	5	6	7

F. YOUR KNOWLEDGE AND FEELINGS ABOUT THE UNIVERSITY YOU SELECTED AT THE START OF SECTION C

To what extent do you agree with the following statements?

Please **circle** your chosen answer.

		1 Strongly disagree	2 Mostly disagree	3 Slightly disagree	4 Neither agree nor disagree	5 Slightly agree	6 Mostly agree	7 Strongly agree
110	I am very familiar with this university	1	2	3	4	5	6	7
111	I have previously done some research on this uni.	1	2	3	4	5	6	7
112	I do not know much about this university	1	2	3	4	5	6	7
113	My views about this university are strong	1	2	3	4	5	6	7
114	I am confident about the accuracy of my perceptions	1	2	3	4	5	6	7
115	My feelings about this uni. are not strong	1	2	3	4	5	6	7
116	My overall impression of this uni. is clear	1	2	3	4	5	6	7

- Thank you very much for completing this questionnaire.
- Before you hand in the questionnaire, please check that you have answered all questions and that for no question you have given more than one answer.

ICHEM STUDENT SURVEY

TUTOR BRIEFING SHEET

What is the survey about?

The survey investigates students' perceptions of, and identification with, university branch campuses in the UAE (i.e. the branches of universities based outside the UAE).

What is the purpose of the survey?

The research will further development of organizational image and identification theory and practice in transnational higher education management. The results will be published in leading academic journals.

Who is organising the survey?

The survey is organised by the International Centre for Higher Education Management (ICHEM) in the School of Management at the University of Bath, UK. ICHM is one of the leading higher education research centres in Europe.

Does it matter if students do not plan to go to universities in the UAE or do not know very much about universities in the UAE?

No. In fact, this is an important part of the research.

How long will it take students to complete the questionnaire?

In the pilot study, conducted at four schools in Dubai, students took 15-20 minutes to complete the questionnaire.

WHAT INFORMATION SHOULD I GIVE TO STUDENTS BEFORE THEY START ANSWERING THE QUESTIONS?

1. Please ask students to **answer every question**.
2. Please ask students to **not give more than one answer** for any question.
3. Please tell students not to worry too much about the university they choose at the start of Section C. They should select the university they think they know most about, even if this is only very basic facts such as location or comparative size. We are not interested in the evaluations of individual universities; in fact, their identities will be anonymised when the results are analysed.
4. In Section C, and in all the sections after this, all questions apply only to the university that the student selected at the start of Section C.
5. Please ask students to **avoid selecting the middle position (4)** as much as possible.
6. Please ask students to use the full range of the scales, and to **select options 1 or 7 wherever possible**.

It would be highly appreciated if you could monitor students' progress while they are completing the questionnaire, to ensure they are complying with these requests.

Thank you for taking part in this survey – it is much appreciated!

Appendix 4. Profiles of interviewees in pilot study.

Ref	Sex	Nationality	Year	Curriculum	Subject to be studied	Preferred country ^a	First choice institution
A1	M	British (Scottish)	13	IB Diploma	Geography	Scotland	University of Aberdeen
A2	F	French	13	IB Diploma	Education	England	Newman University College
A3	M	Indian	12	IB Diploma	Environmental engineering	US	Undecided
A4	F	British	12	IB Diploma	Marketing/public relations	UK	Undecided
A5	F	French & Dutch	12	IB Diploma	International or Corporate Law	UK (or France)	Undecided
A6	M	Pakistani	12	IB Diploma	Accounting and Finance	UK or USA	Undecided
B1	M	Lebanese	13	UK (A Level)	Advertising and Media Communications	Lebanon (or UAE)	American University of Beirut
B2	F	British	12	UK (A Level)	Music	UK	Undecided
B3	F	British	13	UK (A Level)	Computer Science	UAE (or UK)	New York University Abu Dhabi
B4	M	Emirati (UAE)	13	UK (A Level)	?	UAE (Years 1 & 2), then England (Year 3)	Middlesex University Dubai
B5	M	British	13	UK (A Level)	Law	England	University College London
C1	F	Emirati (UAE)	12	UK (AS Level)	?	UAE	?
C2	F	Emirati (UAE)	12	UK (AS Level)	Medicine or International Relations	UAE (or US)	Undecided
C3	F	Jordanian	12	UK (AS Level)	Medicine	UAE	University of Sharjah or Ajman
C4	M	Lebanese	12	UK (AS Level)	Engineering	Lebanon	University of Science & Technology
C5	M	Algerian	12	UK (AS Level)	Biology	UAE	American University of Beirut
C6	M	Emirati (UAE)	12	UK (AS Level)	Engineering	England	University of Manchester
D1	M	British	13	UK (A Level)	Mathematics	England	Imperial College London
D2	M	Indian	13	UK (A Level)	Sports Management	US	New York University
D3	F	Indian	13	UK (A Level)	Liberal Arts	US	Amherst College
D4	F	British	13	UK (A Level)	Architecture	England	University of Cambridge

D5	F	British	13	UK (A Level)	Civil Engineering	England	University of Bristol
D6	F	Indian	13	UK (A Level)	Economics & Religion	US	Yale University

^a Preferred country is stated as mentioned by the interviewee, e.g., several students said that they intended to study somewhere in the UK while other students mentioned a specific country within the UK.

Appendix 5. Missing values in final survey.

Question number	Case(s)	Mean	Recorded mean
14	41, 97, 128	3.54	4
15	7, 225, 319	5.04	5
23	346	4.44	4
26	64	4.54	5
29	149, 150, 153, 182, 249, 270	4.06	4
30	107, 233, 353	4.37	4
32	353	4.26	4
34	261, 278, 352	4.21	4
35	150, 182, 223, 247	4.10	4
36	369	4.36	4
38	247	5.09	5
40	120, 337	4.58	5
41	120	3.84	4
44	266	3.31	3
45	116, 326	4.78	5
46	376	4.65	5
47	376	4.88	5
48	376	2.83	3
53	374	4.46	4
57	374	4.75	5
59	88, 300, 362	4.55	5
61	301	4.58	5
69	109, 374	4.56	5
71	113, 200	3.99	4
78	178, 183, 283	4.42	4
79	216	3.81	4
80	92	4.30	4
84	243	4.08	4
86	309	4.50	5
95	362	4.29	4
99	182	4.39	4
100	283	4.53	5
103	283	4.16	4
105	7	3.96	4
108	139	3.63	4
109	140	3.90	4